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# **Analysis of Three Personalized Search Tools in Relation to Information Search: iGoogle™, LeapTag™, and Yahoo!® MyWeb**

CAPSTONE REPORT

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**Abstract for**

**Analysis of Three Personalized Search Tools in Relation to Information Search:**

**iGoogle<sup>™</sup>, LeapTag<sup>™</sup>, and Yahoo!<sup>®</sup> MyWeb**

Personalized search is becoming mainstream with the rollout of iGoogle®. While only beginning to impact consumers, these search tools require search experts to retool and rethink how they optimize websites. Three personalized search tools are analyzed to illustrate common features related to the information search stage of the consumer buying process (Kotler & Keller, 2006, p. 191). Conclusions provide a summary of potential SEO (search engine optimization) tactics and five key considerations.



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## **Chapter I – Purpose of Study**

### ***Brief Purpose***

The purpose of this study is to analyze a pre-selected group of three personalized search tools (Battelle, 2005, p. 258; Bradley, September 19, 2006) and related search marketing industry content in order to determine how emerging personalized search tools support the information search stage of the consumer buying process (Kotler & Keller, 2006, p. 191). Personalized search is defined as “the fine-tuning of search results and advertising based on an individual’s preferences, demographic information and other factors” (Johnson, 2005). The information search stage involves a consumer who is interested in a product or service and is actively looking for information (Kotler & Keller, 2006, p. 191) on the Web.

Search expert, Gord Hotchkiss, frames the need for personalized search in the following manner: “As the scope of the Internet gets larger and larger, the need for personalization to bring it within our scope becomes more and more important” (2007e). Furthermore, he believes that 2007 which began with Google’s™ February rollout of personalized search tools will see personalized search gaining significant adoption (2007b, last para.). He and other search experts advise their colleagues to begin adjusting SEO tactics and building additional skills and techniques to optimize their clients’ websites for this new search category (Hotchkiss, 2007b, last para.; Wilson, 2007).

The audience for this study is the search expert, defined as: “A search engine marketing executive for a Fortune 1000 company; also a digital brand or direct-response marketer with a designated responsibility for search marketing” (Avenue A | Razorfish, 2006b, pp. 4-6). Search experts also contain search marketing professionals with titles such as search director, search account manager and SEO strategist at search marketing consulting firms (Chopra, 2007, pp. 2-

3). Avenue A | Razorfish notes that search experts need to keep abreast of how the search marketplace is evolving and that they need advice on how to react to changes and threats (2006b, p. 6) such as personalized search. Search Engine Optimization (SEO), a principal part of a search expert's job, is used in order to achieve the highest possible visibility in search results on the major search engines (Williams, 2006d, p. 2). According to Chris Boggs, editor of *Search Marketing Trends*, SEO is a young discipline and many search experts have only one or two years experience (personal communication, May 25, 2007).

The study is conducted as a literature review (Leedy & Ormrod, 2001, pp. 70-90) of sources published between 2005 and 2007 addressing the topics of (a) personalized search tools [Battelle, 2005, p. 255], and (b) information search as a stage in the buying process (Kotler & Keller, 2006, p. 191). The year 2005 is significant as the start date because Google™ launched its personalized search tool that year (Sherman, 2005). A number of sources from years prior to 2005 are included to provide background on the underlying problems of information overload (Netscape, 2000; Wurman, 2001, p. 14), personalization (Pitkow et al, 2002, p 50; Eirinaki & Vazirgiannis, 2003, p. 2) and data privacy (Stewart, 2003a).

Three personalized search tools are pre-selected (from over 100 potential search tools [Knight, 2007]) for consideration during data analysis (see Table 1). These tools gather information about the consumer's web searches and clickstream (the "actions we take in the digital world" (Battelle, 2005, p. 255) in order to improve relevancy of search results. Even though they are new (two are still in Beta test stage) and represent only a small percentage of searches (Hotchkiss, 2007d), they are generating a lot of debate among search experts as they represent the next generation of search (Battelle, 2005, p. 258; Hotchkiss, 2007b) and are certain to impact the SEO profession (Hotchkiss, 2007d; Wilson, 2007). Although Microsoft is

considered one of the “big three” search engines, its Live.com search engine is not included because no information is available about how personalization features are included. Live.com does enable custom search, personalized home page creation and sharing, but to the researcher’s knowledge the search engine does not capture user profile data or add personalized results to the search results page.

<a href="#">iGoogle™ (Formerly Google Web History)</a>
<a href="#">LeapTag™ (Beta 0.8.2)</a>
<a href="#">Yahoo!® MyWeb 2.0 (Beta)</a>

**Table 1. Three pre-selected personalized search tools.**

A content analysis (Palmquist et. al., 2005) is framed as a way to identify features of each selected personalized search tool related to the concept of the information search stage. Selected personalized search tools are examined with regard to how each tool handles the information search stage of the buying process and the reported advantages and disadvantages of the information search features available in each tool for potential search engine optimization. In addition, selected articles, papers and online commentary from the SEO community, both researchers and professionals, are analyzed. The goal in this part of the analysis is to identify SEO tactics proposed by search experts to optimize web sites for personalized search engines in order to facilitate the information search stage of the buying process (Kotler & Keller, 2006, p. 191-192).

Expected results of the content analysis process include two reference tables organized for search experts. The first table (see Table 3) provides a list of information search features identified for each of the pre-selected three personalized search tools. A feature is defined in this study as any product user interface element or function that purports to assist the consumer in the information search stage of the buying process (Kotler & Keller, 2006, p. 191-192). The second

table (Table 15 in Appendix C) identifies SEO tactics search experts describe to optimize web sites for personalized search engines in order to facilitate the information search stage of the buying process. Results from both tables are then reframed into the final outcome of the study (See Tables 8-10), designed for search experts. These tables include a set of tactics regarding potential adjustments that could be made in SEO strategies, in order to leverage the emerging class of personalized search tools to better support the information search stage of the consumer buying process.

### ***Full Purpose***

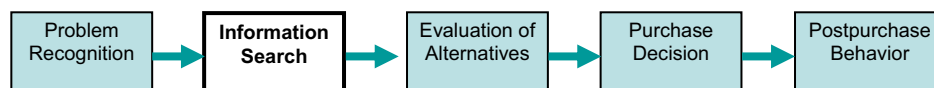
The purpose of this study is to analyze a pre-selected group of three personalized search tools (Battelle, 2005, p. 258; Bradley, September 19, 2006) as well as search marketing industry content (books and online articles written by search experts and trade press) in order to determine how emerging personalized search tools support the information search stage of the consumer buying process (Kotler & Keller, 2006, p. 191-192). Personalized search tools are based on the concept that “the more a [search] engine knows about you, the more it can weed out irrelevant results” (Battelle, 2005, p. 258). Eventually personalized search tools will make “subtle and sophisticated calculations based on your own clickstream and those of millions of others” (Battelle, 2005, p. 262).

The influence of web searches on both online and offline purchases has been well documented in studies over the last few years (Williams, 2006a, p. 6; comScore Networks, 2006; Downhill & Peggie, n.d.). Information search, or the process of gathering information, has been changed by the Internet (Kotler & Keller, 2006, p. 192; Horrigan & Rainie, 2005, p. 58). Information architecture pioneer, Peter Morville, writes, “Never before has the consumer had so much access to product information before the point of purchase” (2005, p. 4). As online



shopping grows, consumers are relying on search engines during the information search and how well a document (page) ranks on search engine results is critical for online marketers (Stone, 2005). The Pew Research Center reports in its latest Internet Project trend findings, that 78% of American adults research products or services before buying (Pew Internet & American Life Project, 2007a) and that on an average day 19% will research and then buy a product online (Pew Internet & American Life Project, 2007b). A 2005 Harris survey shows that 88% of US adults use search engines to research specific topics and 51% use search engines for shopping (Hallerman, 2006, p. 17).

Kotler & Keller, in *Marketing Management*, describe a five-stage buying decision process that consumers go through (2006, p. 191). According to this model, consumers pass through five stages as illustrated in Figure 1 below. “Information search” is the second stage in the process. Consumers who are more engaged or “aroused” during a search enter an “active information search” process where they gather information in a number of ways (Kotler & Keller, 2006, p. 192) including web searches.



**Figure 1. The five-stage model of the consumer buying process (Kotler & Keller, 2006, p. 191).**

But what happens when online consumers have too much information to wade through during this active information search phase? The concept of information overload, which occurs when “the availability of information outstrips the time and energy of those who could potentially use it” (Netscape, 2000) is well known and worsening problem (Hermans, 1998). A recent study estimates that the world produces between one and two exabytes (an exabyte is one billion gigabytes) of unique information a year (Lyman & Varian, 2003). The phenomenon of

information overload is not new (Wilson, 2001, p. 5). The 19th century American writer Edgar Allan Poe wrote:

*The enormous multiplication of books in every branch of knowledge is one of the greatest evils of this age; since it presents one of the most serious obstacles to the acquisition of correct information, by throwing in the reader's way piles of lumber in which he must painfully grope for the scraps of useful lumber, peradventure interspersed (Peifer, Fein, Carroll-Mathes, Gerstung & Boetcker, 2000).*

Over the last several decades, technology has begun to address some of the problems associated with information overload through the establishment of data mining and knowledge management software genres (Wurman, 2001, p. 2). More recently, the explosive growth of the search industry (Battelle, 2005, p. 252) has driven rapid innovation to search engines. Battelle (2005) notes that search is indeed becoming ubiquitous and easier to use, with major search engines providing quick results, browser toolbars and mobile search tools (p. 253). Many others are working on evolving search. In 2007, *Read/Write Web* reports a host of search engines, over 100, available for free on the Web. (Knight, 2007). Morville (2005) writes that we live in the age of “ambient findability,” where everything can be searched from anywhere, anytime (p. 4). Hotchkiss further describes the expansion of search into multimedia thusly: “Now it’s trying to connect us with websites, local businesses, news sources, images, audio files, videos, and the list will continue to grow and grow” (2007e).

The opportunity (and threat) presented to search experts today lies in an examination of the features provided by search personalization tools (Johnson, 2005). Hotchkiss agrees that personalization holds promise as a solution to the problems associated with information overload. He writes:

*As the scope of the Internet gets larger and larger, the need for personalization to bring it within our scope becomes more and more important. Search has to move beyond its current paradigm of one query and a list of links to websites.*

*The only choice is to get better at determining intent with the users. That's why personalization in some form is inevitable (2007e).*

According to Williams, "Search Engine Optimization (SEO) aims to get a site near the top of the organic (or algorithmic) results of search engines." (2006d, p.2). However, in a 2005 study which looked at early versions of personalized search tools (not the tools analyzed in this report), Jupiter Research points out a number of pitfalls of personalized search: (a) they write "the motivation to personalize remains low for most consumers" (Satagopan, Bayriamova & Stein, 2005, p. 1), (b) ease-of-use is reduced (p. 3), (c) personalized search engines must amass a large amount of data about the user in order to begin to return more relevant results (Slawski, 2007a), (d) and privacy concerns are a barrier for consumers (Stewart, 2003b, p2).

The study is conducted as a literature review (Leedy & Ormrod, 2001, pp. 70-90) of sources published between 2005 and 2007. 2005 is significant because Google launched its personalized search tool that year (Sherman, 2005). Sources from years prior to 2005 are included to provide background on the underlying problem of information overload (Netscape, 2000). Preliminary literature is collected in the areas of Marketing, Search Engine Marketing (SEM), Search Engine Optimization (SEO), and Personalized Search.

Criteria for selection of the three personalized search tools for analysis in this study include one or more of the following:

1. Tools available from the major search engines: e.g. Google, Yahoo!®

2. Tools that have been reviewed by well-known trade magazines and blogs (e.g. *Inc. Magazine*, *Search Engine Watch*)
3. Tools that build a consumer's search history
4. Tools that track clickstream (sites the consumer visits to build a trail of his or her Web activity).

Once the three personalized search tools are selected, data analysis is conducted in two phases. In Phase One, content analysis (Palmquist et al, 2007) is used to examine the selected search tools. In Phase One a coding process is established, designed to identify features in each tool that facilitate the information search stage of the buying process (Kotler & Keller, 2006, p. 191-192). Vendor websites and help documentation are examined along with search industry publications, analyst reports, search experts' blogs and search expert commentary.

In Phase Two of the content analysis, a coding process is established, designed to identify commentary by search experts related to personalized search and the potential impact on SEO tactics. 16 selected articles, papers and online commentary published by members of the SEO community, both researchers and practicing professionals, are analyzed.

The results of the content analysis are presented in the form of two reference tables, organized for search experts:

1. A table listing information search features found in the pre-selected personalized search tools (See Table 3), related to the information search stage of the consumer buying process. For example, analysis of the literature reveals 17 features including: (a) Personalized Home Page, (b) Recommendation System and (c) Search History.
2. A table identifying search experts' commentary related to personalized search and the potential impact on SEO (See Table 15 in Appendix C). For example, preliminary

review of the literature reveals a common theme that traditional SEO tactics will become less effective and will have to change as personalized search tools gain adoption (Davies, 2007; Wilson, 2007).

The final outcome is presented in the form of a set of recommendations, based on further review and interpretation of the results of phases one (Appendix B) and two (Appendix C) of the content analysis. Recommendations are designed to provide search experts with an understanding of the role of personalized search tools within the context of the information search stage of the consumer buying process (Kotler & Keller, 2006, p. 191). Recommendations are framed in terms of a set of potential tactics that can be considered for use in the evolution of SEO strategies. As Wilson warns, search experts need to begin adjusting their tactics in order to keep up with the pace of change in the search business: “For search marketers...new skills and techniques are needed to achieve search visibility” (2007).

## **Limitations to the Research**

This study analyzes three pre-selected personalized search tools within the context of the information search stage of the consumer buying process (Kotler & Keller, 2006, p. 191) with the goal of helping search experts understand and use this emerging class of search tools in their SEO strategies.

The study does not explore cognitive psychology nor delve into knowledge discovery beyond the context of the information search stage of the buying process (see Figure 1 on p. 5). The researcher is primarily looking at the information search stage when the consumer is “aroused” or more receptive to information or involved in an “active information search” (Kotler & Keller, 2006, p. 191-192).

This study focuses on the role of search and in particular emerging personalized search tools in affecting the consumer's information search as they move towards completing a transaction on a company's website (online) or at a store (offline). While search tools are used throughout the buying process (Avenue A | Razorfish, 2006a, p.8), this report focuses on their initial use during this stage of active information search. Avenue A | Razorfish sees SEM and SEO as tools interactive marketers can use during the information search stage or "awareness" stage of the buying process to improve understanding and differentiation of a company's products and services (Avenue A | Razorfish, 2005a, p. 9).

Search engines are highly technical. Many papers presented at search conferences or published by the Association for Computing Machinery (ACM) include search algorithms. The study does not examine the mathematical or technical aspects of search engines. Search experts, although knowledgeable about how search engines work, are not mathematicians. They must understand *why* they might use personalized search tools and how these tools work, but they do not need to know the mechanics behind these search tools.

Since this paper is examining a range of personalized search tools, the researcher does not explore the phenomenon of social search which used the collective knowledge of communities to shape custom search engines as well as people to answer questions and provide guidance via a question-and-answer site (Holohan, 2006; Kharif, 2006). While this is an important aspect of fine tuning custom search engines and personalized search tools, it is beyond the scope of this paper.

The timeframe for this study is 2005 to 2007. Google took its first step into personalization with its Search History in 2005 and all of the tools that are analyzed were created within the last two years. Some of the articles needed to provide context for the study were

published in 2003 including an important article on Web Personalization. There are additional articles and books dating as far back as Vannevar Bush's 1945 article envisioning clickstreams, which provide context.

The pace of innovation in the search industry continues to be rapid (Battelle, 2005, p. 252) and the scale of innovation widespread as evidenced by the over 160 search engines tracked monthly on the *Read/Write Web* blog (Knight, 2007). For this report, three personalized search tools are selected using criteria outlined on page 7. The number of tools is limited to three personalized search tools that include the top two search engine companies which account for 90% of US paid search ad spending (Hallerman, 2007, p 1), Google and Yahoo!, as well as a third start-up search company which provides a different approach to personalized search. Two early variants of personalized search tools, local search and custom search engines, while currently gaining widespread adoption (Battelle, 2005, p. 258) are excluded from this study. Shopping search sites such as Froogle (<http://www.froogle.com>), Yahoo! Shopping (<http://shopping.yahoo.com/>) and MSN Shopping (<http://shopping.msn.com/>), are also excluded since the scope of this study does not allow for vertical search engines, specialized search engines which focus on a "topic or industry and use rudimentary search means, such as collecting links to relevant sites or charging companies a per-click fee for a listing" (Chafkin, 2007). Furthermore the only shopping search site that employs personalized search features is *Yahoo! Shopping* and it is at the bottom of the pack in terms of traffic (Hotchkiss, 2007i). According to Hotchkiss' review, the top shopping search engines do not use personalized search features (2007i).

The three search tools in question are constantly evolving. While patent applications are considered to gain an understanding of the features and functionality the three companies

are planning for personalized search, the data gathered from these sources is limited to features in the current releases of the tools. Planned features that are not currently supported are not considered.

## **Problem Area and Significance of Study**

It's easier than ever for consumers to find information online. When it comes to the buying process, "63% of Americans expect that a business will have a Web site that gives them information about a product they are considering buying" (Horrigan & Rainie, 2002, p. 2). In a 2005 study, Horrigan and Rainie find that on a given day 19 million Americans use the Internet to research a product (p.58).

But along with the growth and increasing usage comes the growing problem of information overload (Netscape, 2000). Consumers are overwhelmed by the amount of information at their fingertips and cannot effectively use much of it (Wurman, 2001, pp. 14-15). Too many choices have been shown to leave consumers "demotivated" and actually reduce conversion (Schwartz, 2004, p. 28). Consumers need tools that *limit* the number of options and *filter* the information (Schonfeld, 2006) that is presented.

Search engines and in particular Google with its PageRank™ algorithm have made searching for information easier and more effective for consumers by quickly returning relevant results. PageRank is the rating Google gives a page based on a variety of factors. PageRank appears in the Google Toolbar. A rating about 2 is good. The highest rating is 7. Ranking on Search Engine Result Pages (SERP) is based in part on the PageRank, but there are numerous other factors that influence ranking (Chris Boggs, personal communication, May 25, 2007).



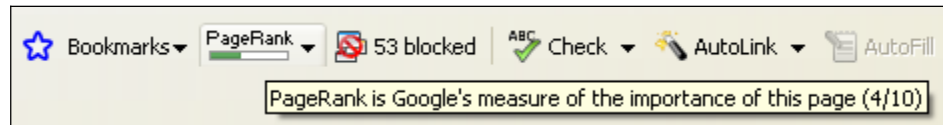


Figure 2. PageRank™ as it appears in the Google Toolbar™.

Google and broadband Internet access have meant that web sites need to accommodate shorter visits, encourage frequent visits through search marketing and address user's needs (Nielsen, 2003) through user-centered design and content optimization. Personalized search tools can help. But consumers still have to work hard still to find relevant information and have to dig through pages of results until they find the one or two that are useful (Wurman, 2001, p. 173).

Search author, John Battelle, notes: "As every engineer in the search field loves to tell you, search is at best 5 percent solved—we're not even into the double digits of its potential. And search itself is changing at such a rapid pace—in the past year important innovations have rolled out once a week, if not faster—that attempts to predict the near future are almost certainly doomed" (Battelle, 2005, p. 252). The pace of change and innovation has increased as the competition between major search engines intensifies and search startups proliferate (Battelle, 2005, p. 252). A search on patent applications for the term, "personalized search," returns 80 applications (11 with this term in the application title) reflecting the importance of this approach to search engine companies (US Patent & Trademark Office, 2007).

Search marketing has become a major component of online advertising budgets with paid search accounting for over 40% of Internet advertising spending in 2006 (Heisler, 2007, p. 3; PriceWaterhouseCoopers, 2007, p. 6) and projected to continue to grow through 2011 (Heisler, 2007, p. 3). For Internet advertising overall, consumer advertisers make up over half of all Internet ad spending (PriceWaterhouseCoopers, 2007, p. 9).

The search market is maturing and search marketers are becoming more sophisticated (Heisler, 2007, p. 1). As a sign of this trend, senior executives are more involved (Heisler, 2007,

p. 1). Heisler (2007) predicts that 65% of marketers will increase spending in 2007 (p. 1).

As the search market expands, online marketers are faced with new challenges such as Web spamming (Gyongyi, Garcia-Molina, & Pedersen, 2006, p. 1) and click fraud (Knight, 2006).

The last issue along with greater competition for keyword bidding has driven up prices for keywords (Hallerman, 2007, p. 2; Dunhill & Peggie, n.d.).

New search tools claim to offer consumers more relevant results (LeapTag, 2007) while taking less time to find information (Pitkow et al, 2002, p. 50). For search experts these tools predict a higher return on the online marketing dollar through more qualified leads and addressing the latent conversion issue by making it easier for consumers to complete the buying process (Sterling, 2006). The significance of personalized search tools for consumers and search marketers alike is described by Wilson (2007):

*‘One page fits all’ is now a thing of the past. Personalized search is now the default and none too easy to escape from either through opt-out. This means that every search result you click, every link you bookmark, every RSS feed you subscribe to using Google services can be used to improve your personal search results. For most, this should be very welcome, as it promises a far better search experience that will adapt to your interests and evolve over time. For search marketers, it means new skills and techniques are needed to achieve search visibility.*

Hotchkiss agrees, writing of search leader, Google, and its iGoogle™ personalized search tool: “It’s the engine that will power the future of Google for the foreseeable future. It will eventually surpass the PageRank algorithm in importance, giving Google the ability to match content to very specific and unique user intent on the fly” (2007h). Disambiguation of

intent is one of the main hurdles search engines must overcome to move to the next level (Hotchkiss, 2007e). Google's VP of Search Product & User Experience, Melissa Mayer, says that personalized search is "one of the biggest relevance advances in the past few years" and that "personalization doesn't affect all results, but when it does it makes results dramatically better." (Sterling, 2007).

Beginning in 2005, there was a surge in interest in a concept termed the "attention economy," as online marketers sought to find ways to keep their web sites and online ads from disappearing in the overwhelming amount of information on the Internet (O'Reilly, 2006). As noted by Schonfeld (2006) "Companies that can help narrow people's choices and filter their attention are in high demand. Search engines like Google and Yahoo! already do this in a crude way, but there is much room for improvement."



## Chapter II – Review of References

A number of key references are instrumental in framing the research topics and supporting the sections of this research report. Since the focus of the literature collection is very recent, most of these references break into two groups: material supplied by search experts who work in the search industry and write about it in their blogs as well as researchers. The researchers provide some of the older references, however, it is common for ideas and experimental tools to come out of research labs and theses and work their way into the commercial world and into some of the search engine tools analyzed in this report.

**Avenue A | Razorfish.** (2007, March 7). *2007 digital outlook report*. Retrieved April 22, 2007 from <http://www.avenuea-razorfish.com/reports/RegOutlook2007.html>

Avenue A | Razorfish describes itself as “one of the largest interactive marketing and technology services agencies in the world” (p. 145). Search marketing is one of the practices within the agency. This 145-page annual report provides a whole chapter on search marketing addressing trends, emerging channels, issues like click fraud and an evaluation of the state of Search Engine Optimization (SEO). Since the report is directed at marketers, there is much discussion of how SEO and SEM are being utilized in marketing and predictions about the role these tools will play. The authors do not talk about personalized search. For this reason, the report is not used as data in this study. It is however, useful for development of the purpose and problem area portions of the report.

The agency has a dedicated SEO practice with 37 search experts and employs a number of search marketing professionals who are recognized as industry leaders (Palau, 2007, p.1). Chris Boggs, for example, is a subject matter expert for this report and serves on the Search Engine Marketing Professional Organization (SEMPO) board of directors.

**Avenue A | Razorfish.** (2006, October 31). *Avenue A | Razorfish search practice core messages*. Retrieved May 1, 2007 from [http://marketing/asset\\_library/index.asp](http://marketing/asset_library/index.asp)

Since the researcher works for Avenue A | Razorfish, he is able to access the search portion of the marketing intranet. This internal document is a positioning paper about the agencies search marketing practice. Among the agency's beliefs, it states: "the future of search includes a healthy adoption of personalized search – where people choose to refine listings based on past behaviors or preset filters." Of greatest value in this study, however, is the description of the Search Expert, which is used to frame the defined audience of this report. The information about who these search experts are and what their needs are is very helpful in framing the purpose statement.

**Battelle, J. (2005).** *The search: how Google and its rivals rewrote the rules of business and transformed our culture*. New York: The Penguin Group.

This book, a national bestseller, provides a chapter entitled, Perfect Search, which in a very readable style (unlike many scholarly reports) describes the history of Google and the rise of search engines and search marketing. In the final chapter, Perfect Search, Battelle explores technological topics like ubiquitous search, clickstream (another word for trails or Web history), local search and personalized search. Battelle says that personalized search is the first phase of the next generation of search. His analysis and expert commentary support the context of the purpose statement and are used in the data set for the content analysis. He is also a proponent of personalized search.

With his background in journalism and many years of interviewing the leaders of high tech companies, Battelle has a deep knowledge of the history and people who are driving search engine marketing forward. Battelle is a founding partner of Wired Magazine. He was named as

one of the ten best marketers in the advertising business by Advertising Age. Battelle also publishes a blog that according to blog service provider, FeedBurner (<http://www.feedburner.com>), and Lee Odden, another popular search blogger, is the most subscribed to blog on search marketing by far. Battelle's *Searchblog* (<http://battellemedia.com/>) has over 76,000 subscribers, three times the number of the next most popular search marketing blogger.

**Davies, D.** (2007, April 25). Personalization and the death of SEO. *WebProNews*. Retrieved April 29, 2007 from <http://www.webpronews.com/expertarticles/2007/04/25/personalization-and-the-death-of-seo>

Dave Davies writes analysis of personalized search and its impact on SEO for *WebProNews*. This article is used as part of the data set for the content analysis of the paper and is primarily useful as the kind of comprehensive analysis of the issues search experts are wrestling with and laying out of tactics they should consider.

Davies runs a search engine marketing firm based in Victoria, BC Canada and writes for *WebProNews* (<http://www.webpronews.com/>). He also speaks at the popular Search Engine Strategies conferences.

**Eirinaki, M., & Vazirgiannis, M.** (2003). Web mining for web personalization. *ACM Transactions on Internet Technology*, 3(1), 1-27.

This paper, published for the *ACM Transactions on Internet Technology* journal, is a foundational review of Web personalization, the forerunner of personalized search. It is useful in defining many terms used in this report and explaining the modules which make up Web personalization. The paper supports the positioning and problem statement of this report. In particular it has useful chapters on User Profiling and Privacy Issues

This report is provided as a source in a graduate level course on information design trends in the UO AIM Master's Degree Program. Eirinaki is currently teaching at the University

of California Santa Cruz. While writing her dissertation, she taught at the Athens University of Economics and Business. Vazirgiannis is an Associate Professor in the Department of Informatics at the Athens University of Economics and Business.

**Fishkin, R. & Pollard, J.** (2007, April 3). Google search engine ranking factors. *SEOMoz*. Retrieved May 24, 2007 from <http://www.seomoz.org/article/search-ranking-factors>

In early 2007, Seattle-based SEOMoz canvassed 37 top search experts to compile a list of the factors which Google uses to rank documents (pages) on its search results. This report, in its second version, is a leading source on ranking factors (Sullivan, 2005; Chris Boggs, personal communication, May 25, 2007). Graphical results are also included from a brief survey of the experts on search rankings at Google. This report is used both as foundational content (to understand how Google currently ranks documents) as well as in the data set for content analysis, since several factors are included in personalized search tool features such as web history or clickstream.

SEOMoz is an Internet marketing and search optimization consulting firm led by Rand Fishkin. Rand is a speaker at Search Engine Strategies and Pubcon conferences and is featured in a *Newsweek* article on the SEO industry (Stone, 2005).

**Hallerman, D.** (2007, April). Search marketing: counting dollars and clicks. *eMarketer*.

*eMarketer* is an online marketing report that serves online marketers, market research executives and Internet advertising professionals. This report focuses on search marketing and provides detailed economic, usage data, statistics and graphs illustrating the trends in search marketing and the rapid growth of the industry in terms of allocation of a segment of advertising budgets. It supports the problem area of this report. The report is available to the researcher



through a subscription his employer, Avenue A | Razorfish holds. Hallerman is a Senior Analyst with *eMarketer*.

**Hotchkiss, G.** (2007. March 9). The pros & cons of personalized search. *Search Engine Land*. Retrieved April 19, 2007 from <http://searchengineland.com/070309-081324.php>

Gord Hotchkiss writes for several search marketing blogs including his own, *Out of My Gord* (<http://www.outofmygord.com/>). This article is from *Just Behave* (<http://search.searchengineland.com/search?w=just+behave>), a column he writes for one of the leading search industry blogs, *Search Engine Land* (<http://searchengineland.com/>). This article presents pros and cons of personalized search and provides an excellent source for the data set to be used in content analysis. In addition to this article, Hotchkiss writes about the personalized search debate in five other articles which are included in the data set for the content analysis. Hotchkiss is a search expert who writes extensively and speaks often at search conferences, and is a proponent of personalized search. He is the chairman of the board at SEMPO, the Search Engine Marketing Professional Organization.

**Kotler, P. & Keller, K.L.** (2006). *Marketing management 12e*. Upper Saddle River, NJ: Pearson Prentice Hall.

Kotler & Keller's *Marketing Management* is one of the top textbooks used in marketing research courses at colleges and universities. This book provides a section on the Five-Stage Buying Decision Process of which Information Search is the second stage. The information search concept is the lynchpin connecting the consumer buying process with personalized search as a search engine tool.

Philip Kotler is a Professor of Marketing at Northwestern University near Chicago. He is the first recipient of the American Marketing Association's Distinguished Educator Award.

Kevin Keller is a Professor of Marketing at the Tuck School of Business at Dartmouth College in New Hampshire. According to his biographical sketch in the book, Kotler is “one of the world’s leading authorities on marketing” (2006, p. vii).

**Morville, P.** (2005). *Ambient findability*. Sebastopol, CA: O'Reilly.

This book by Information Architect pioneer, Peter Morville, provides key support to a number of aspects of this report. Morville cites Kotler & Keller’s buying decision process in Chapter 5: Push and Pull which discusses personalization.

Morville walks comfortably in both marketing and technology worlds. He is best known for his co-authorship of *Information Architecture*, the definitive book on the discipline now in its third edition. He is president of Semantic Studios, an information architecture consultancy in Ann Arbor Michigan. He also teaches at the University of Michigan School of Information.

**Palmquist, M.**, Busch, C., De Maret, P., Flynn, T., Kellum, R., Le, S., Meyers, B., Saunders, M., White, **R.** (2007). *Content Analysis*. Retrieved April 1, 2007 from Colorado Statue University Department of English Web site: <http://writing.colostate.edu/guides/research/content/>

This website, edited and developed by Mike Palmquist, documents in a clear and concise manner an approach to the content analysis process. Palmquist’s eight-step approach to conducting conceptual content analysis is used as a way to design the data analysis portion of this paper. In addition to his work on this website, Palmquist teaches a course on Research Theory at Colorado State University, which hosts this website.

**Pitkow, J.**, Schutze, H., Cass, T., Cooley, R., Turnbull, D., Edmonds, A., et al. (2002). Personalized search: a contextual computing approach may prove a breakthrough in personalized search efficiency. *Communications of the ACM*, 45(9), 6.

This paper is important to this study because it explains the operation and concepts behind Outrider, an early personalized search tool that was acquired by Google in 2001. The tool later became Google's Web History personalized search tool and is now named iGoogle. The paper presents the technology in a coherent and compelling manner. The authors conclude, "We have shown initial evidence to support our firm conviction that the contextualized computing approach toward the personalization of search is the next frontier toward significantly increasing search efficiency" (p. 55).

James Pitkow in 2002 was a researcher in the User Interface Group at Xerox's renowned Palo Alto Research Center (PARC) in California. Most recently Pitkow was CEO of Internet Startup, Moreover Technologies.

**Sullivan, D.** (2007, April 19). Google search history expands, becomes web history. *Search Engine Land*. Retrieved April 30, 2007, from <http://searchengineland.com/070419-181618.php>

Danny Sullivan has written in-depth analyses of Google's personalization tool, Web History, or iGoogle as it is now named. These articles, which appear on Search Engine Land, are used to support the data analysis portion of this report. In particular, the information he provides about Google's search tools as well as the tactics he recommends for search experts serve as excellent data for this report.

Sullivan founded Search Engine Watch and sold it in 1997 to Jupiter Media. He left Search Engine Watch at the end of 2006. In addition to writing about search marketing, he has chaired and spoken at Search Engine Strategies conferences.



## Chapter III – Method

### ***Primary Research Method***

A literature review (Leedy & Ormrod, 2001, pp. 70-90) is conducted as the primary research method. Qualitative content analysis is conducted to “identify the specific characteristics of a body of material” (Leedy & Ormrod, 2001, pp. 157), which in this case includes identification of the features of three pre-selected personalized search tools with regard to their relation to the information search stage of the consumer buying process and identification of comments by search experts in this same topic area. Kotler & Keller’s (2006) textbook, *Marketing Management*, is the standard marketing textbook for marketing research courses and it used as a primary source to describe the five-stage buying process and information search (2006, p. 191). The *2007 Digital Outlook Report* from Avenue A | Razorfish is a primary source on these contextual topics. The researcher, who works for Avenue A | Razorfish, also accessed the online marketing firm’s internal asset library to find excellent background information about SEM, SEO and the needs of online marketers. Online primers from leading search blogs like *Search Engine Land* and literature from the Avenue A | Razorfish Search Marketing Intranet form the basis for information about SEM and SEO. John Battelle, a thought leader in the search industry (Odden, 2007), provides authoritative background on the search business and personalized search in his book, *The Search*, as well as his blog, *Searchblog*, and online column on *Search Engine Land*.

## Literature Collection

The main topic of this report is the information search stage of Kotler & Keller's five-stage buying process (2006, p. 190) and the possible role personalized search tools play in supporting consumers during this stage.

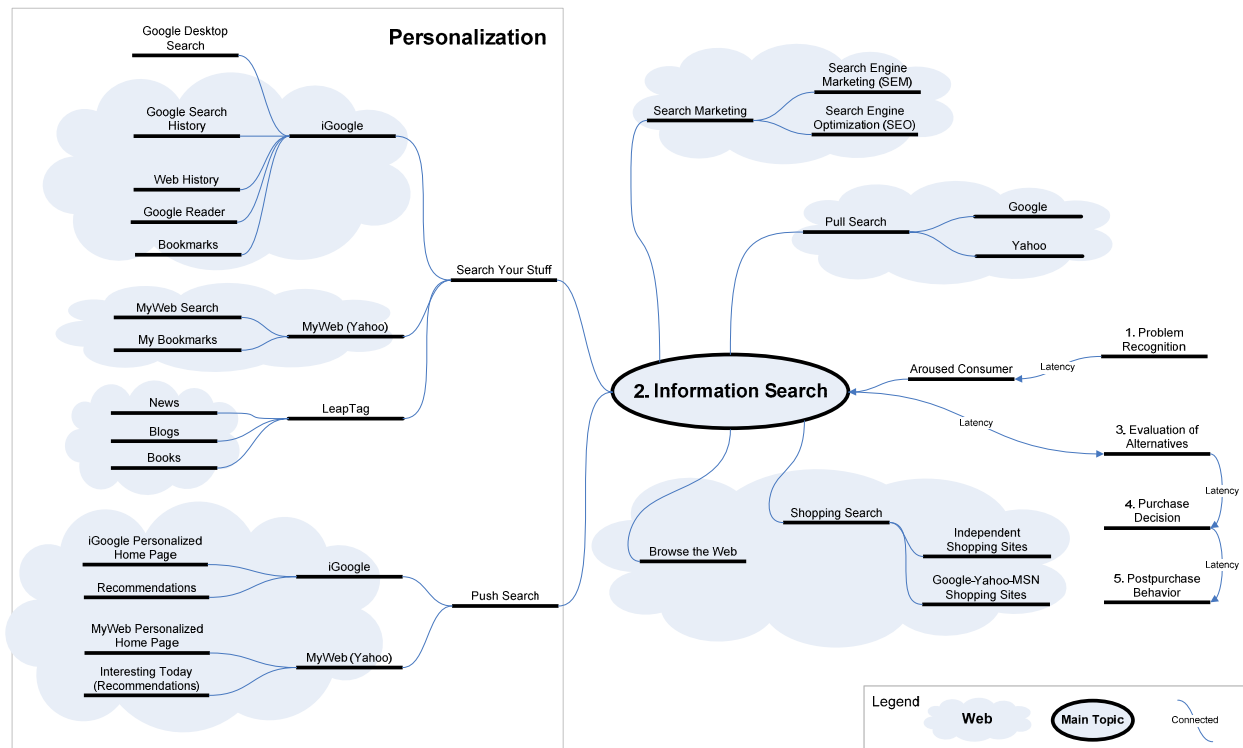


Figure 3. Concept map representing relationships among research topics.

Initial research on the search engine topic reveals personalization (the left half of Figure 3 above) as the next generation or evolution of search (Battelle, 2005, p. 258; Hotchkiss, 2007a). The main components of this topic are: *personalized search, information search and tools*. Search vocabulary is documented in Table 2 below. Searches using the combinations “personalized search,” “personalized search,” “personalization + information search” yield the most relevant results using the standard Google search engine.

<b>Personalized search</b>	<b>Information Search</b>	<b>Buying Process</b>	<b>Tools</b>
Personalized Search, Search Personalization, Personalization, User Profile, User Interest, Intent, Context, Web History, Search History, Clickstream	Knowledge, Knowledge Discovery, Information Retrieval, IR, Information Search, Actionable Information, Awareness Recommendation, Relevance	e-commerce, Internet retailing, online retail, conversion, funnel, online transactions, offline transactions	Service, Gadget, Widget, Search Engine, Custom Search Engine, CSE, User Interface, Web

**Table 2. Literature search terms.**

Sources for the literature review are selected according to the following criteria:

1. University of Oregon Applied Information Management course materials;
2. The source examines current trends and developments in the search marketing industry;
3. The source addresses the topic of personalized search tools and services;
4. The source is from a personalized search tool or service;
5. The source is an expert in the search marketing industry. An expert has published a well-known or referenced search blog, has published a book or articles in trade publications and/or may have spoken at search conferences or participated on panels (virtual or at a conference). Odden's listing of top search marketing blogs (2007) as well as a check on Technorati's authority rating (Carroll, 2007) is used to validate blogs used as references in this report.
6. Search Marketing and Internet Advertising Online Forums and conferences.

## Library database and index searches

Sources are collected from search results and bibliographies from the sources above as well as digital library databases including:

- University of Oregon OneSearch Advanced, Inspec, Internet and Personal Computing Abstracts
- ACM Special Interest Group: SIGIR: Information Retrieval
- Book Sites including: (a) Amazon.com, (b) Books24x7® and (c) Safari® Books Online
- Digital libraries including: (a) ACM Digital Library, (b) University of Oregon OneSearch Advanced, and (c) Avenue A | Razorfish Media Research Library: including reports from Forrester Research, Gartner, Jupiter and other analyst firms
- Blogs from search marketing experts provide timely digests of search news along with analysis and provide links to sources for further investigation. After subscribing to these blogs, Google Reader is used to scan posts.
- Conference proceedings from recent search and advertising conferences including: (a) IA Summit 2007, (b) 16<sup>th</sup> International World Wide Web Conference and (c) Search Engine Strategies
- Online Search Publications including (a) *Search Engine Land*, (b) *Search Engine Watch* and (c) *Search Engine Lowdown*, and (d) *WebProNews*. An RSS reader (Google Reader) is used to scan posts from these and other feeds.
- Patent Applications and Patents are downloaded from the US Patent and Trademark Office Website.



- Search Engine Marketing Professional Organization Learning Center

([http://www.sempo.org/learning\\_center/](http://www.sempo.org/learning_center/)) including research, articles and webinars.

This paper incorporates a range of search tools to gather literature for review including:

(a) Google (b) Google Scholar, (c) Windows Live Search Academic (d) Custom Search Engines and (e) iGoogle™. Custom search engines were created using Google Co-op

(<http://www.google.com/coop/>). They each target a user-selected group of web sites with user-generated keywords for a targeted search. The panel on the left searches “Personalized Search Tools” while the one on the right searches for search industry news.



**Figure 4. Two Google custom search engines.**

A custom search engine is created to enable targeted searches on the topic of this paper. The search engine hits 15 search related sites using keywords in order to yield more relevant sources than a general search of the Web.



**Figure 5. Google custom search engine results.**

Since iGoogle™ is used, the researcher is able to display automatically generated recommendations from Google based on search and Web activity. As more searches are conducted, the search results and these recommendations become more relevant – so the theory

goes. In practice, this recommendations page yielded relevant links and sources are found that may not have been found otherwise. Hotchkiss notes the importance recommendation devices can have once a search engine has enough data about the consumer when he writes, “the promise of personalization is moving Google to be a true recommendation engine when it gets confident in disambiguating my intent based on my current behavior” (2007g). Recommendations are an application of personalized search where the search engine “pushes” content to the consumer based on the profile the tool has built up (Slawski, 2007b). Figure 7 provides an example.



Figure 6. iGoogle™ Recommendations tab.

## Data analysis

Three personalized search tools are pre-selected (from over 100 potential search tools [Knight, 2007]) for consideration during data analysis. These are: iGoogle™, LeapTag™ (Beta 0.82); and Yahoo!® MyWeb 2.0 (Beta). An eight-step process is used in this study to guide data

analysis, using the conceptual analysis strategy described on the CSU Writing Lab website (Palmquist, et al., 2007).

The coding process is conducted in two phases. Phase One is designed to identify personalized search tool features, located within three pre-selected personalized search tools (iGoogle™, LeapTag (Beta 0.8.2) and Yahoo! MyWeb (Beta), related to the information search stage of the consumer buying process. The following process, according to the eight step strategy suggested by Palmquist et al., (2007) applies:

- 1. Decide the level of analysis.** Coding of the three personalized search tools is conducted at the concept level, as described by terms and phrases.
- 2. Decide how many concepts to code for.** An interactive set of coding concepts (Palmquist et al, 2007) is used as a way to guide the coding of each of the three pre-selected personalized search tools (meaning that relevant categories can be added during the coding process). The set of 17 coding concepts is defined by examining the products and supporting literature and constructing a list of major personalized search tool features that are found in personalized search tools.

**Table 3. Personalized search tool features defined.**

<b>Personalized Search Tool Feature</b>	<b>Synonym</b>	<b>Definition</b>
Automatic Retrieval	Continuous Search	This feature is used by LeapTag which automatically retrieves search results based on dynamic tagging.
Behavior on Selected Site	User Behavior	"What you do on a site and how long it takes you to return to the search engine is or soon will be a factor" (Davies, 2007).
Behavioral Targeting	Ads	"Ads are triggered by a series of sites visited or some similar behavior. Advanced user targeting is available in networks that aggregate user behavior across multiple Web sites." (Williams, 2006e, p. 6).

<b>Personalized Search Tool Feature</b>	<b>Synonym</b>	<b>Definition</b>
Bookmarks	Favorites	Tools that provide a bookmark feature capture valuable data on the consumer's interests. Unlike browser bookmarks, bookmarks captured by a personalized search tool are available from any computer with Internet access.
Data Privacy	Pause On/Off Opt-in/Opt-out	Features such as opt-in, pausing search history and permanently deleting items from search history are examples of data privacy features (Sterling, 2007).
Location		The most common form of personalized search and the simplest is based on location which is determined by a ZIP code, city or address.
Personalized Home Page	Gadgets Widgets	A dashboard-like page with tabs that can be customized in content (gadgets) and appearance by the consumer.
Personalized Search	Personalization	The fine-tuning of search results and advertising based on an individual's preferences, demographic information and other factors (Johnson, 2005).
Recommendations		A feature of a search engine that displays recommended results akin to Amazon's suggestions (Slawski, 2007a). This feature is an example of "push search."
RSS Feeds		Personalized search engine may track subscriptions to RSS feeds.
Search History	Clickstream	Search engines now support search history, keeping track of users' searches and using this information to refine future searches (Battelle, 2005, p. 258).
Social Search		"A way of making Web search more relevant by incorporating the preferences of like-minded Net surfers" (Kharif, 2006).
Tagging		Some sites enable tagging items with keywords that enable the consumer to find similarly tagged items and gauge popularity of items either individually or by collecting tags across all registered users.
Toolbar		Popular browser search toolbars are seen as one way personalized search will gain adoption (Davies, 2007).
User Profiling		Process of gathering information specific to each user either implicitly or explicitly (Eirinaki & Vazirgiannis, 2003, p.3).
Voting		Simple voting mechanisms enable consumers to indicate whether they like or dislike an item. These votes help refine the tagging algorithm and enhance relevancy of future search results.
Web History		Synonymous with clickstream or click path, Web History refers to the consumers' activity on the Web.

3. **Decide whether to code for existence or frequency of a concept.** Coding is done for the existence of these concepts in the pre-selected personalized search tools.
4. **Decide on how you will distinguish among concepts.** Concepts are recorded as the same if they are similar or synonymous.
5. **Develop rules for coding your text.** Determinations as to whether or not to code a particular potential concept are made by comparing the concept to the set of definitions provided in Table 3 above for the initial coding concepts.
6. **Decide what to do with irrelevant information.** Information not related to the coding concepts is ignored.
7. **Code the texts.** Data is manually compiled using the following template for each of the pre-selected personalized search tools.

Pre-Selected Personalized Search Tool Name	
LeapTag Feature	Note
Source	
Feature	Quotation or note about how feature is used

Figure 7. Phase One data recording template.

8. **Analyze your results.** The plan for presentation of the results of the conceptual analysis is described below, in Data Presentation, along with the final outcome of the study.

Search experts are concerned that traditional SEO tactics, which focus on gaming the PageRank™ algorithm to improve a document's ranking on search results, will become obsolete as personalized search tools gain adoption (Davies, 2007; Wilson, 2007). In Phase Two of the content analysis, a coding process is established, designed to identify commentary by search experts related to personalized search and the potential impact on SEO. A table is produced to gather results from the conceptual analysis pertaining to this search expert commentary (see

Table 15 in Appendix C). 16 selected articles, books, papers and online commentary from the Search Engine Optimization (SEO) community are analyzed.

1. **Decide the level of analysis.** Coding of the thirteen selected sources is conducted at the concept level, as described by terms and phrases.
2. **Decide how many concepts to code for.** Coding is guided by a single concept, defining the “new” approach to be taken to Search Engine Optimization, as opposed to the “old” approach. As the selected texts are read, potential comments are examined in light of this definition and included in the tally if the researcher determines that there is sufficient “fit.” The operative definition is described in Step 5: Rules for Coding.
3. **Decide whether to code for existence or frequency of a concept.** Coding is done for the existence of these concepts, related only to the topic of personalized search in the materials from search experts and industry analysts.
4. **Decide on how you will distinguish among concepts.** Concepts are recorded as the same if they are similar or synonymous. The coding process is designed to amplify and describe the concepts. Both strategic and tactical concepts are collected.
5. **Develop rules for coding your text.** Determinations as to whether or not to code a particular potential concept are made by comparing the concept to the definition of the new SEO way as described by Davies (2007): “New ways of conducting SEO campaigns need to be developed that don’t just target the universal algorithm but also take into account the factors included in the personalization components.” The personalization components he mentions are laid using the Phase One Data Recording Template (see Figure 8 above). This definition guides reading of this set of literature. The concepts are

more general and speculative. Sources are read carefully and compared to the definition to find the concepts.

6. **Decide what to do with irrelevant information.** Information not related to the definition of the new SEO way is ignored.
7. **Code the texts.** Data is manually compiled using the following template for each of the sources.

<b>Commentary by search experts related to personalized search features, in relation to the information search stage of the buying process</b>	
Source	
Search Expert Comment & Relevant Personalized Search Feature	

Figure 8. Phase Two data recording template.

## ***Data presentation***

As an introduction to this section, a summary of personalized search features is presented to help search experts understand what search personalization is (Appendix B). Based on information presented in the results of Phase One and Phase Two analysis, the final outcome of the study is presented in Tables 8-10, which include commentary by search experts on how the personalized search tool features in question support the information search stage of the buying process (Kotler & Keller, 2006, p. 191-192). Comments are selected that are the most clearly focused on the information search stage of the buying process. Potential SEO tactics are also included to provide search experts with concrete steps that can be taken in their SEM and SEO strategies. Comments are grouped under categories that emerge during analysis and tagged with terms indicating the type of tactic to aid in using the table as a reference tool (see Figure 10).

<b>Comment Type (if applicable)</b>	<b>Selection from list of Search Expert Comments</b>	<b>Personalized Search Feature</b>	<b>How Comment Supports Information Search in Buying Process, According to Search Experts</b>	<b>Potential SEO Tactic</b>
	Comment 1	Feature	Explanation	Tactic

Figure 9. Search expert commentary template.





## Chapter IV – Analysis of Data

### *Phase One: Personalized Search Tool Features*

Phase One is designed to identify personalized search tool features located within the three pre-selected tools (iGoogle, LeapTag, and Yahoo! MyWeb). The objective is to build an understanding of what these personalized search tools do and more importantly, how these features support the information search stage of the buying decision process. An initial set of 11 concepts (features) is coded for existence and displayed in Appendix B. This interactive set of features is expanded during the coding process to 16 features.

Based on Phase One results, a feature comparison is produced to reveal the similarities and differences of approaches provided in these three tools:

Feature	iGoogle	LeapTag	Yahoo! MyWeb
Automatic Retrieval	○	●	○
Behavior on Selected Site	●	○	○
Behavioral Targeting (Ads)	○	◐	○
Bookmarks	●	○	●
Data Privacy	◐	●	◐
Location	●	○	●
Personalized Home Page	●	○	●
Personalized Search	●	●	●
Recommendation System	●	◐	◐
RSS Feeds	●	◐	◐
Search History	●	○	●
Social Search	○	◐	●
Tagging	●	●	●
Toolbar	●	◐	●
User Profiling	●	●	●
Voting	○	●	○
Web History	●	○	●
● Effectively Implemented    ◐ Partially Implemented    ○ Not Implemented			

**Table 4 A comparison of features on the pre-selected personalized search tools.**

iGoogle and Yahoo! MyWeb are each a suite of search tools provided by the two leading search engines. LeapTag is more limited in its feature set but provides data privacy, behavioral targeting and continuous search capabilities. A review of Table 5 information reveals that iGoogle incorporates 13 of the possible 17 search features. LeapTag incorporates 11 of the possible 17; and Yahoo! MyWeb incorporates 13 of the possible 17 search features.

Further review of Table 5 information shows that the three tools share effective implementation of a number of features, including ‘personalized search’, ‘tagging’ and ‘user profiling’. When this analysis is expanded to include partial implementation, the list of shared features also includes ‘data privacy’, ‘recommendation system’, RSS feeds, and ‘toolbar’.

Only LeapTag incorporates ‘automatic retrieval,’ ‘behavioral targeting,’ and ‘voting’ features. These features are significant because LeapTag is taking a different approach towards personalized search and how it thinks consumers behave during the information search stage. LeapTag automates retrieval of search results based on the user profile it has built. Automation is identified by Human-Centered Computing author, Michael Dertouzos, as one of the five “forces” that will make applications easier to use (2001, p. 49). So rather than the consumer performing iterative searches to find information, this personalized search tool will automatically retrieve search results and the thinking goes, save the consumer time and effort. LeapTag also has taken a different approach architecturally to protect data privacy. User profile data is stored on the consumer’s computer thereby eliminating the concern about this sensitive information being stored in search engines databases. The second distinguishing feature, Behavioral Targeting, is used by LeapTag to display books that match the tags users have built. Users can purchase books displayed in the search results by clicking on the thumbnail images or links. Finally, LeapTag employs a voting mechanism whereby consumers vote on whether they like or dislike particular

search results. This feature enables “dynamic tagging” or the ability of the search tool to fine tune search results over time based on the consumer’s preferences. Even though LeapTag is a start-up search company with a small user base, it is worth watching due to its approach on these important factors.

## ***Phase Two: Search Expert Commentary***

Phase Two of the data analysis process gathers search expert commentary as reported within 16 selected articles (see Table 6 below), on personalized search tools and their impact on SEO. These expert comments are captured in the Appendix C.

**Table 5. Selected sources for data analysis Phase Two.**

<b>Selected Sources for Data Analysis Phase Two</b>
<b>Battelle, J.</b> (2005). <i>The search: how Google and its rivals rewrote the rules of business and transformed our culture</i> . New York: The Penguin Group.
<b>Daffron, E.</b> (2007, February 7). When Google changes, SEO takes it personally. <i>Search Engine Watch</i> . Retrieved May 13, 2007 from <a href="http://clickz.com/showPage.html?page=clickz_print&amp;id=3624877">http://clickz.com/showPage.html?page=clickz_print&amp;id=3624877</a>
<b>Davies, D.</b> (2007, April 25). Personalization and the death of SEO. <i>WebProNews</i> . Retrieved April 29, 2007 from <a href="http://www.webpronews.com/expertarticles/2007/04/25/personalization-and-the-death-of-seo">http://www.webpronews.com/expertarticles/2007/04/25/personalization-and-the-death-of-seo</a>
<b>Fishkin, R. &amp; Pollard, J.</b> (2007, April 3). Google search engine ranking factors. <i>SEOMoz</i> . Retrieved May 24, 2007 from <a href="http://www.seomoz.org/article/search-ranking-factors">http://www.seomoz.org/article/search-ranking-factors</a>
<b>Hotchkiss, G.</b> (2007a, January 8). The future of SEO in a personalized search interface. <i>Out of My Gord</i> . Retrieved May 14, 2007 from <a href="http://www.outofmygord.com/archive/2007/01/08/The-Future-of-SEO-in-a-Personalized-Search-Interface.aspx">http://www.outofmygord.com/archive/2007/01/08/The-Future-of-SEO-in-a-Personalized-Search-Interface.aspx</a>
<b>Hotchkiss, G.</b> (2007b, January 10). The SEO debate continues. <i>Out of My Gord</i> . Retrieved May 14, 2007 from <a href="http://www.outofmygord.com/archive/2007/01/10/The-SEO-Debate-Continues.aspx">http://www.outofmygord.com/archive/2007/01/10/The-SEO-Debate-Continues.aspx</a>
<b>Hotchkiss, G.</b> (2007c, February 3). The personalized results are coming, the personalized results are coming! <i>Out of My Gord</i> . Retrieved May 1, 2007 from <a href="http://outofmygord.com/">http://outofmygord.com/</a>
<b>Hotchkiss, G.</b> (2007d, March 2). Goggle’s Matt Cutts on personalization and the future of SEO. <i>Search Engine Land</i> . Retrieved April 20, 2007 from <a href="http://searchengineland.com/070302-111618.php">http://searchengineland.com/070302-111618.php</a>
<b>Hotchkiss, G.</b> (2007e, March 9). The pros & cons of personalized search. <i>Search Engine Land</i> . Retrieved April 20, 2007 from <a href="http://searchengineland.com/070309-081324.php">http://searchengineland.com/070309-081324.php</a>
<b>Hotchkiss, G.</b> (2007g, April 20). More food for thought on Google’s Web history announcement. <i>Search Engine Land</i> . Retrieved May 1, 2007 from <a href="http://www.outofmygord.com/archive/2007/04/20/More-food-for-thought-on-Goggles-Web-history-announcement.aspx">http://www.outofmygord.com/archive/2007/04/20/More-food-for-thought-on-Goggles-Web-history-announcement.aspx</a>

Selected Sources for Data Analysis Phase Two
<b>LeapTag.</b> (2006 - 2007). <i>LeapTag Blog</i> . <a href="http://leaptag.typepad.com/">http://leaptag.typepad.com/</a>
<b>Slawski, B.</b> (2007, March 26). Around the SEM world - personalized search. <i>WebProNews</i> . Retrieved May 5, 2007 from <a href="http://www.webpronews.com/node/36625/">http://www.webpronews.com/node/36625/</a>
<b>Sterling, G.</b> (2007, May 1). iGoogle, personalized search and you. <i>Search Engine Land</i> . Retrieved May 1, 2007 from <a href="http://searchengineland.com/070501-084656.php">http://searchengineland.com/070501-084656.php</a>
<b>Sullivan, D.</b> (2007a, February 2). Google ramps up personalized search. <i>Search Engine Land</i> . Retrieved April 30, 2007, from <a href="http://searchengineland.com/070202-224617.php">http://searchengineland.com/070202-224617.php</a>
<b>Sullivan, D.</b> (2007b, April 19). Google search history expands, becomes web history. <i>Search Engine Land</i> . Retrieved April 30, 2007, from <a href="http://searchengineland.com/070419-181618.php">http://searchengineland.com/070419-181618.php</a>
<b>Wilson, N.</b> (2007, February 8). 3 ranking survival tips for Google's new personalized results. <i>Search Engine Land</i> . Retrieved April 23, 2007 from <a href="http://searchengineland.com/070208-134406.php">http://searchengineland.com/070208-134406.php</a>

Hotchkiss is a proponent of personalized search (Daffron, 2007). On the other hand, critics like Daffron and Jupiter Research, claim that personalized search has seen limited adoption and does not make that much of a difference for consumers.

As noted above in the discussion of features, the three pre-selected personalized search tools take different approaches to enabling information search. Most of the search expert commentary is focused on Google's big push into personalized search in February, 2007 since Google is the leading search engine, accounting for two-thirds of the Internet searches (Hallerman, 2007, p. 18). After completion of Phase Two of the conceptual analysis process, the personalized tool features are incorporated into tables (see Tables 8-10 below) along with selected comments by search experts on how the features support the information search stage of the buying process (Kotler & Keller, 2006, p. 191-192). These tables are the final outcome of the study, designed for search experts. Potential SEO tactics are also included to provide search experts with concrete steps that may be taken in their SEO strategies. Their goal is to improve the ranking of their clients' documents (web pages) on personalized search tools as well as to increase traffic to the client websites.

Comments are grouped into the following three primary categories:

Category	Definition
White Hat SEO	SEO techniques that target “social media optimization, link bait, things that are interesting to people and attract word of mouth and buzz, those sorts of sites naturally attract visitors, attract repeat visitors, attract back links, attract lots of discussion” (Hotchkiss, 2007d). “Optimizing for users” is White Hat SEO vs. “optimizing for search engines” which is known as Black Hat SEO (Hotchkiss, 2007d).
Marketing Research	“The systematic design, collection, analysis, and reporting of data and findings relevant to a specific marketing situation facing the company” (Kotler & Keller, 2006, p. G5).
User-Centered Design	“The practice of creating engaging, efficient user experiences is call user-centered design. The concept of user-centered design is very simple: Every step of the way, take the user into account as you develop your product” (Garrett, 2003, p. 19).

**Table 6. Categories of search expert comments.**

The comments are coded in the first column with the following additional sub-types as further clarification:

Sub-type	Definition
Partnering	The tactic depends on partnering with marketing research or user experience teams.
Potential	A comment that applies to the future. These comments are conjecture but suggest tactics that search experts think will become more important over time.
Quick Win	Some SEO tactics can be implemented quickly and do not require a long-term effort in an attempt to influence ranking.
Skills & Techniques	Search experts need to build skills and techniques in marketing research and user experience design reflecting the shift from “optimizing for search engines” to “optimizing for users” advocated by Hotchkiss (2007).
Social Media Optimization (SMO)	“The concept behind SMO is simple: implement changes to optimize a site so that it is more easily linked to, more highly visible in social media searches on custom search engines (such as Technorati), and more frequently included in relevant posts on blogs, podcasts and vlogs” (Bhargava, 2006).
Standard SEO	Some tactics recommended for personalized search engines are currently standard SEO tactics and are considered best practices by some experts.
Understanding Users	A number of search expert comments focus on the growing importance of understanding users for SEO (See Appendix C).

**Table 7. Search expert commentary sub-types.**

Following are the Phase Two tables with salient comments that relate to information search stage or consumer buying process. Selected comments are grouped into one of the three primary categories, beginning with the key category White Hat Tactics, followed by Marketing Research Tactics and User-Centered Design Tactics. Comments are tagged with sub-types as a way to suggest how they can be used. In the White Hat Tactics group, there are five Quick Win comments, four Skills & Techniques comments, six Social Media Optimization (SMO) comments and three Potential comments. The SMO comments reflect the emphasis on social media for search experts wishing to leverage personalized search tools. The Marketing Research group, not surprisingly, has comments that all are Partnering since search experts work with market research teams on these tactics. Two of the comments in Marketing Research are Potential and one is Skills & Techniques. Search experts need to not only work with marketing research teams, but also learn some marketing research skills and techniques themselves in order to build an understanding of targeted consumers. The User-Centered Design group has three comments which are classified as both Partnering and Skills & Techniques for the same reasons as Marketing Research. User-Centered Design and Marketing Research disciplines both employ user research skills and techniques. There are six Understanding Users comments from the three tables.

Next features are examined to see which ones are used most often by search experts. It should be noted that the researcher included comments from all features to represent the personalized search tool feature set. The number of times a feature is associated with a comment is not very significant since this analysis is qualitative. Eight comments apply to Personalized Search which is a general feature of personalized search tools. Four comments apply to Social Search features which reflects the importance of this feature for search experts. A related feature,

Social Networks, is associated with three comments. Another feature which often involves sharing, Bookmarks, has three comments. Recommendations, the “push” feature, are associated with two comments. Web History has two comments.

Finally, comments are analyzed for how they address the information search stage in the buying process. Hotchkiss’ comment about consumer patterns (the second comment in the White Hat group) most directly addresses the consumer buying process. Davies’ comment (the first under User-Centered Design) also directly addresses the consumer buying process. Other comments like Hotchkiss (last under Marketing Research) describe how personalized search is changing the information search process by enabling discovery (finding what you don’t know). For the most part, search experts do not directly address how personalized search tools enable information search in the buying process. The researcher analyzes the comments in these cases and surmises how they address information search.

**Table 8. Search expert commentary matched to features and SEO tactics: White Hat Category.**

<b>Comment Type</b>	<b>Selections from Search Expert Comments</b>	<b>Personalized Search Feature</b>	<b>How Comment Supports Information Search in Buying Process</b>	<b>Potential SEO Tactic</b>
Quick Win	"Put Google Bookmark buttons on your site, such as the one offered by AddThis. Getting bookmarked also helps you be seen as important" (Sullivan, 2007a).	Bookmarks Social Search	As visitor traffic increases, the percentage of high value or trusted customers increases.	Use bookmarks whenever possible and specially if they are in communities
Quick Win	"You can affect how you rank for localized phrases. The tactics here fall into standard SEO tactics, however the first step is outside of the traditional SEO realm and that is to be sure to get your business listed on Google maps" (Davies, 2007).	Location	Localized search is one of the first areas where personalized search is seeing widespread adoption (Battelle, 2005, p. 258). Consumers are able to easily find local businesses through search engine tools that use this variant of personalized search.	<a href="#">Get listed on Google Maps.</a> Optimize for local phrases.
Quick Win	"Bottom line: increase visitors who are interested in the topic of your site" (Davies, 2007).	Personalized Search	As visitor traffic increases, the percentage of high value or trusted customers who will help improve page rank increases. Link building and keyword buys are two tactics for increasing traffic.	"Ranking for multiple phrases and pulling in traffic from social bookmarking sites and authority communities are great ways to help increase your visitor numbers from people interested in the topic of your site" (Davies, 2007).



Comment Type	Selections from Search Expert Comments	Personalized Search Feature	How Comment Supports Information Search in Buying Process	Potential SEO Tactic
Quick Win SMO	"Get on the Google personalized homepages of searchers. That means offering them a feed or a Gadget and encouraging take-up with an Add To Google buttons" (Sullivan, 2007a).	Personalized Home Pages	Adding gadgets to the home page increases brand awareness and affinity.	Encouraging users to subscribe to a blog or RSS enables feed as well as providing buttons to easily add a Gadget to a personalized home page will in turn improve ranking as search engine being to look at these factors.
Quick Win SMO	"[Jessica] Ewing made the editorial comment that 'feeds are boring' but 'gadgets are fun' and the introduction of Google Gadgets has contributed to the rapid growth of iGoogle. (Yahoo has widgets.) She explained that when Gadgets were first introduced they were organized by her group but now they're ranked algorithmically. Google also uses collaborative filtering to present Gadgets: people who liked Gadget X, liked other these other Gadgets" (Sterling, 2007).	Personalized Home Pages	Adding Gadgets to the home page increases brand awareness and affinity.	Providing buttons to easily add a Google Gadget or Yahoo! Widget to a personalized home page will in turn improve ranking as search engine being to look at these factors.
Quick Win Standard SEO	"Titles & Descriptions are crucial: You need the clickthrough more than ever. Clickthroughs get your site as seen as possibly important to a particular person's profile" (Sullivan, 2007a).	Personalized Search	Consumers will be drawn to page titles in the SERPs and descriptions that are scanable and have keywords that are familiar and intuitive.	Hone page titles and descriptions to make sense on results page.  This remains an SEO best practice whether targeting personalized search tools or traditional search engines.

Comment Type	Selections from Search Expert Comments	Personalized Search Feature	How Comment Supports Information Search in Buying Process	Potential SEO Tactic
SMO	<p>"You need to associate your site with specific communities that you know your visitors are likely to be a part of. You also need to try to get your site added to social bookmarking sites by people who are likely to have common bookmarks with others who may search your targeted phrases or related phrases. Basically you want to make sure that any connection you can help make between your site, your visitors, and other potential visitors with similar interests or patterns as your past/present visitors is established" (Davies, 2007).</p> <p>"Link Popularity of Site in Topical Community" is an important ranking factor (Fishkin, 2007).</p>	Social Search Bookmarks	Topical communities and bookmarks will help improve ranking on personalized search engines. Furthermore, information found in these communities and authority sites is trusted more by consumers than ads (Kim, 2007, p. 2).	<p>Understand search patterns of targeted consumers.</p> <p>Build links from topical communities.</p> <p>Get site added to social bookmarking sites.</p>
SMO	<p>Optimized for social search sites (Wilson, 2007).</p> <p>"Rate of inbound links" is an important ranking factor (Fishkin, 2007).</p>	Social Search	Social search sites achieve the "knock-on effect" of driving more traffic to the site thereby positively influencing ranking although this traffic is largely low quality.	Optimize for social network sites like: <a href="#">Digg</a> , <a href="#">Del.icio.us</a> , <a href="#">Reddit</a> ,

Comment Type	Selections from Search Expert Comments	Personalized Search Feature	How Comment Supports Information Search in Buying Process	Potential SEO Tactic
SMO	“Social networking means finding the movers and shakers, those who can swing traffic your way on the blogosphere. It can also mean finding them through formal social networking sites like MySpace ( <a href="http://myspace.com">http://myspace.com</a> )” (Wilson, 2007).	Social Networks	Consumers are getting more information from blogs which if they are authoritative can influence buying decisions.	<p>“Establish a MySpace profile</p> <p>Identify and engage with the <a href="#">blog influencers</a> in your niche</p> <p><a href="#">Start blogging.</a></p> <p>Institute a viral link building program to help propel your blog into circulation</p> <p>Build a remarkable <a href="#">widget</a>” (Wilson, 2007)</p>
SMO Skills & Techniques	“SEO’s are going to need to develop new measurements for their campaigns that reside outside of the direct ranking-reports of old. New strategies to tie sites together and ensure that websites are included in communities and that visitors react favorably to them are going to become increasingly important” (Davies, 2007).	All	Communities and authority sites that consumers use will influence search results more thereby making search results more relevant for consumers.	<p>Develop new measurements for SEO campaigns.</p> <p>Create strategies that use SMO tactics.</p>
Understanding Users	“Another way to attract high PageRank users to your site requires <i>thinking like a high PageRank user</i> [italics added]. What type of person would visit related websites and view multiple pages and/or spend reasonable amounts of time on those sites? What are they looking for? How do they surf? What other sites do they visit?” (Davies, 2007).	Search History Web History	According to Hedgers’ theory about individuals having their own PageRanks, some users are considered by Google as more valuable since their clickstream more closely matches the sites people with similar interests visit. These <i>high PageRank users</i> have a greater affect on a site’s ranking (Davies, 2007).	<p>Build understanding of how these high value users surf the Web and what they do on websites. (Davies, 2007).</p> <p>Modify site structure.</p> <p>Adjust keyword targeting.</p>

Comment Type	Selections from Search Expert Comments	Personalized Search Feature	How Comment Supports Information Search in Buying Process	Potential SEO Tactic
Understanding Users	"[Sep] Kamvar told his audience that various technical advances in search algorithms now permitted Google to create a personalized PageRank for every user and all sorts of other personalized algorithms, not simply around link structure" (Sterling, 2007).	Search History Web History	See previous comment. Consumers who have a higher PageRank will influence personalized search results more since they better represent search patterns for particular phrases.	Build understanding of how these high value users surf the Web and what they do on websites. (Davies, 2007).  Modify site structure. Adjust keyword targeting.
Partnering Potential Skills & Techniques SMO	Bill Slawski writes: "Ultimately personalized search is going to require site owners to know and understand the interests of their targeted customers better, learn about where they like to visit on the web, what communities they may belong to, how the site owners can get involved in those communities, and what will convince customers to become evangelists for a site. Search marketers can be an integral part in creating that conversation" (Jasra, 2007).	Social Search Social Networks	Consumers trust their own experience, experiences of friends and family and consumer opinions posted online (Kim, 2007, p. 3).	Build understanding of targeted customers.  Optimize for Social Search.  Optimize for Social Networks.  Guide site owners through the process.
Potential	"[Web History] gives Google the ability to precisely target search results based on exactly what's happening to me right now" (Hotchkiss, 2007g).	Web History Behavioral Targeting	Much research has been done on consumer patterns associated with life events (Hotchkiss, 2007g). Based on search history and web history, ads and search results can be finely targeted to consumer needs (Hotchkiss, 2007g).	Know what life events are most common when people visit your site.  Optimize for life event phrases.

Comment Type	Selections from Search Expert Comments	Personalized Search Feature	How Comment Supports Information Search in Buying Process	Potential SEO Tactic
Potential	Optimize for Google services (Wilson, 2007).	Personalized Search Bookmarks RSS Feeds	Google has made a major push into personalized search with the rollout of Google services and is collecting data that will begin to influence personalized search results for consumers who have an account and opt-in to personalized search.	Optimize for: <ul style="list-style-type: none"> <li>• <a href="#">Google Personalized Homepage</a></li> <li>• <a href="#">Google Bookmarks</a></li> <li>• <a href="#">Google Reader</a></li> </ul>
Potential	"[Google's Melissa] Mayer did suggest that personalized results would eventually extend to sponsored links. 'We want search and ads to mirror one another,' she said (Sterling, 2007).	Behavioral Targeting	Hotchkiss and Sterling write that Google will target ads to consumers based on their personalized search and Web history. These paid search results will provide additional although perhaps not as trustworthy information to consumers.	Anticipate ability to include ads in SEM strategies for personalized search engines.
Skills & Techniques	"'One page fits all' is now a thing of the past. Personalized search is now the default and none too easy to escape from either through opt-out. This means that every search result you click, every link you bookmark, every RSS feed you subscribe to using Google services can be used to improve your personal search results" (Wilson, 2007).	Personalized Search	With Google's rollout of personalized search tools, consumers will begin to see an improvement, although subtle, in their search results. This could shorten their information search.	Personalized search is not insignificant and is not going away. Begin to build skills and adjust SEO tactics.
Skills & Techniques	"For search marketers, it means new skills and techniques are needed to achieve search visibility" (Wilson, 2007).	Personalized Search	Standard SEO tactics will begin to lose effectiveness as personalized search tools gain adoption and search engines push them. This is expected to improve the information search experience for consumers.	Acquire new skills and techniques to leverage personalized search tools.

**Table 9. Search expert commentary matched to features and SEO tactics: Market Research Category.**

<b>Comment Type</b>	<b>Selections from Search Expert Comments</b>	<b>Personalized Search Feature</b>	<b>How Comment Supports Information Search in Buying Process</b>	<b>Potential SEO Tactic</b>
Partnering Skills & Techniques Understanding of Users	"There is an opportunity to move beyond the black box tactics that have typified the SEO industry for the last decade and truly become experts in understanding how people search for and connect online with products and services that they're interested in" (Hotchkiss, 2007d).	Personalized Search	This approach will yield richer data and insights into the buying process.	Learn to create synergy between marketing, user experience and SEO. Guide site owners through the process.
Partnering	Demo personalized search for client. Encourage them to look at "entire horizon of the space" instead of one trophy phrase (Hotchkiss, 2007d).	All	Clients/Site Owners need to broaden their SEM focus to include the whole search space including social search, bookmarking sites, etc...	Demo personalized search for client.  Guide site owners through the process.
Partnering Potential	"The promise of personalization is moving Google to be a true recommendation engine when it gets confident in disambiguating my intent based on my current behavior" (Hotchkiss, 2007g).	Recommendations	This is the advertisers' dream – to be able to precisely target ads based on personalized searches.	Connect with marketing and user experience teams.
Partnering Potential	"With Web history, Google can track your progress through the buying cycle to be able to match the information site you're looking for to where it believes you are, based on your current click stream data" (Hotchkiss, 2007g).	Web History Recommendations	"It's not just providing you a shortcut to sites you are already aware of, it's in making you aware of new sites you never knew existed, ranked and prioritized according to the PageRank algorithm" (Hotchkiss, 2007g).	Not Applicable
Partnering Understanding Users	"Work with the marketing team to crawl inside the head of your target audience and figure out the who, the when and the why" (Hotchkiss, 2007c).	Personalized Search	By first understanding the consumer, when they are in information search mode and their goals, search experts can design effectively target SEO tactics to reach them.	Partner with marketing and user experience teams. Identify the market and communities target customers are in.

**Table 10. Search expert commentary matched to features and SEO tactics: User-Centered Design.**

<b>Comment Type</b>	<b>Selections from Search Expert Comments</b>	<b>Personalized Search Feature</b>	<b>How Comment Supports Information Search in Buying Process</b>	<b>Potential SEO Tactic</b>
Partnering Skills & Techniques Understanding Users	"Basically, the better designed your site is to provide visitors with the information and experience they are looking for the higher it will show up in the results in future searches" (Davies, 2007).	Personalized Search	"Changes made to improve the visitor behavior on your website are going to increase conversions and keep the visitor there for longer periods of time" (Davies, 2007).	'Make the information that a searcher is likely looking for when conducting a specific search easy to find" (Davies, 2007).  Apply UCD heuristics.  Optimize copy for the Web and for users.
Partnering Skills & Techniques Understanding Users	"You target an end user. You wrap your site messaging in terms that resonate with that user. You write in their language, you give them a reason to seek you out, and you sure as hell don't disappoint them when they click through to your site" (Hotchkiss, 2007c).	Personalized Search	Search engines are beginning to look at the consumer's behavior from the search engine to the target sites. Sites that fail to meet consumers' information search needs will not rank as high in personalized search results.	Build understanding of targeted consumers (users).  Apply UCD heuristics.
Partnering Skills & Techniques Understanding Users	"Corny as it might sound, designing sites for users has never been more important for search marketers than it is today, if for no other reason than the single algorithm you're chasing now will soon be 500 million little ones" (Daffron, 2007).	All	This comment echoes Hotchkiss' advice to "optimize for the user" rather than the engine. Sites that are more usable and address users' needs will rank higher in personalized search results.	Build understanding of users.  Apply UCD heuristics.





## Chapter V – Conclusions

This study explores the potential for personalized search tools to affect the information search stage of the buying decision process and presents a set of SEO tactics for search experts to consider. Hotchkiss writes: “In a market as hotly contested as search is, I still believe that the amount of personalization that appears on the search results page will continue to grow, likely faster than Google is anticipating right now. ...What we’re seeing today is just the tip of the iceberg. So although personalization may not be impacting search engine optimization to a great extent today, it will definitely do so in the future” (2007d). Search experts need to keep in mind that personalized search is not going away.

Is it important to keep the impact of personalized search tools in perspective. Personalized search is limited right now in terms of adoption. Hotchkiss writes, “As a factor that SEOs have to consider right now, [Personalized Search] actually has less impact than a major index update might” (2007d). Every few months search engines update their indexes which can present opportunities for search experts to take advantage of (Chris Boggs, personal communication, May 25, 2007). Based on an interview with Google’s Marissa Mayer, Hotchkiss reports that currently “only one in five searches will be impacted by personalization and it will only lift two results into the top 10. In this way, it’s really not a major impact for most of us on the majority of our searches” (2007e). Most consumers still use traditional iterative searches to gather information about products and services. Search experts should prepare for personalized search however as Google is likely to increase the weight of personalized search factors in the future (Hotchkiss, 2007f). Hotchkiss writes: “Google will move more aggressively towards personalization on more types of searches and they will impact more results” (2007f).

Personalized search tools should make it easier for consumers to organize and find (or “re-find”) information they have searched for on the Web. The ability to search personally established bookmarks and to look at searches that have previously performed is a boon to consumers who may want to first evaluate options (the next stage of the buying process) and then narrow their options. Search engine designers are hoping personalized search tools will build loyalty as consumers build search history and tag sites they visit. They know that it’s harder to switch search engines once time and energy has been invested in customizing a home page with imported bookmarks and feeds.

Privacy and security are significant potential barriers to adoption of personalized search tools. However, a recent ChoiceStream survey finds a dramatic increase from 2005 to 2006 in consumers willing to provide “information about themselves to providers they trust in exchange for a personalized online experience” (2007, p. 1). Sterling believes that Google is sincere in making its use of personal information transparent and in going to “extraordinary lengths” in protecting data privacy (2007). Other expert commentary reviewed in this report indicates that consumers will find the tradeoff worthwhile – for example, by allowing Google to watch their Web and Search History, they will receive more relevant search results.

Satagopan, Bayriamova & Stein (2005) of Jupiter Research believe that consumers are lazy. As a result, they feel that taking the additional steps of getting a Google account and opting in for personalized search will be slow. But with Google’s push in February of this year, personalized search is already being built into browsers and gadgets and Hotchkiss believes that adoption will continue to rise if Google can effectively demonstrate the “usability lift” personalized search brings to information search (2007g). Google sees its iGoogle personalized

home page with its gadgets as a way to virally draw people to open Google accounts (as Gadgets are passed created and shared) and thus begin using personalized search (Sterling, 2007).

While urging action on the development of potential SEO tactics listed in Tables 8-10, the outlook is positive as reflected by Davies (2007), “In short, while the lives of SEOs are once again going to get a little more difficult, the search engines will benefit, their visitors will benefit, website owners will benefit and so in the end, this is good for all of us.” Although personalized search is not currently having a big impact on consumers, the consensus from the search commentary provided in this report indicates that it will gain adoption to the point that SEO will need to change in order to remain effective. Search experts need to remember that personalized search is not going away. There is a sense of urgency. Those who start now will be ahead of the game. Greg Sterling sums up the importance of personalized search for consumers and search experts: “Assuming...that Google is able to maintain the confidence of its registered users and increase their ranks, personalized search does offer the potential for a much improved consumer experience and a glimpse into what is undoubtedly one very powerful dimension of the future of search” (2007).

In closing, here are five key considerations for search experts who are interested and ready to begin:

1. Personalized search may shorten and improve the information search stage for consumers by providing more relevant results targeted to life events big and small. The consensus is that these new tools will improve the search experience for consumers.
2. For search experts, organic optimization techniques continue to be important. Their ability to influence PageRank™ will wane, but it will still be important to generate a high volume of traffic.

3. Search experts should learn new skills and techniques from the realm of marketing research and user research to better understand consumers, improve the user experience and fine-tune SEO parameters, yielding higher visibility on personalized search engines.
4. Search experts will increasingly move towards “White Hat” tactics aimed at optimizing for users and their communities and the cascades of information that influence their buying decisions. To do this, they must first build an understanding of consumers and their information needs.
5. Search experts should adopt new SEO tactics aimed at personalized search engines such as the three tactics Wilson recommends as starters (See Appendix C, p. 67). Along with these new tactics, search experts should also adopt new measurements for SEO and SEM as Davies explains: “From this one thing is clear, SEO as we know it will be coming to a slow but sure death. The rules that once applied, those that were universal, will no longer apply. New ways of conducting SEO campaigns need to be developed that don’t just target the universal algorithm but also take into account the factors included in the personalization components” (2007).

## Appendix A – Pre-selected Personalized Search Tools

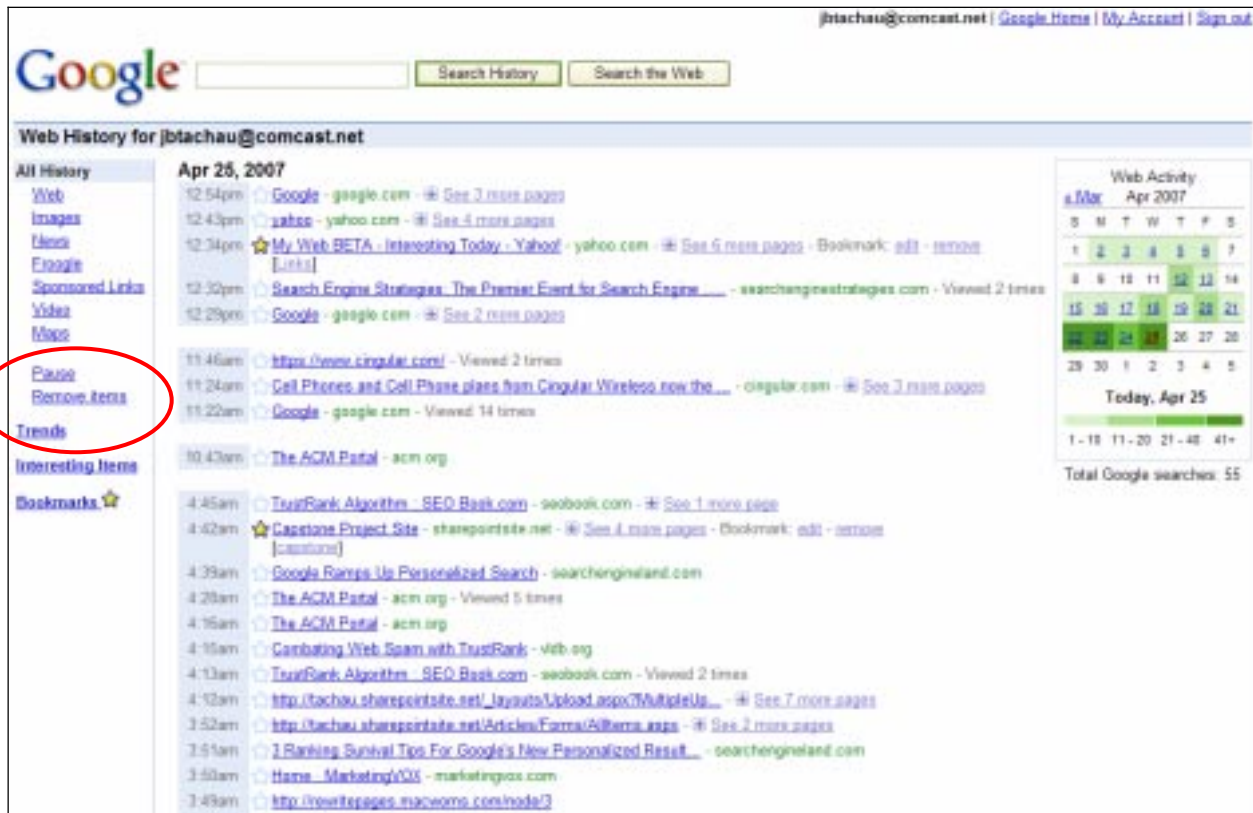


Figure 10. iGoogle™.

*Google tracks searches as well as clickstream to produce more relevant search results over time.*

*Tracking can be paused by clicking the link in lower left and items that are not relevant can be removed so that they do not influence future search results.*

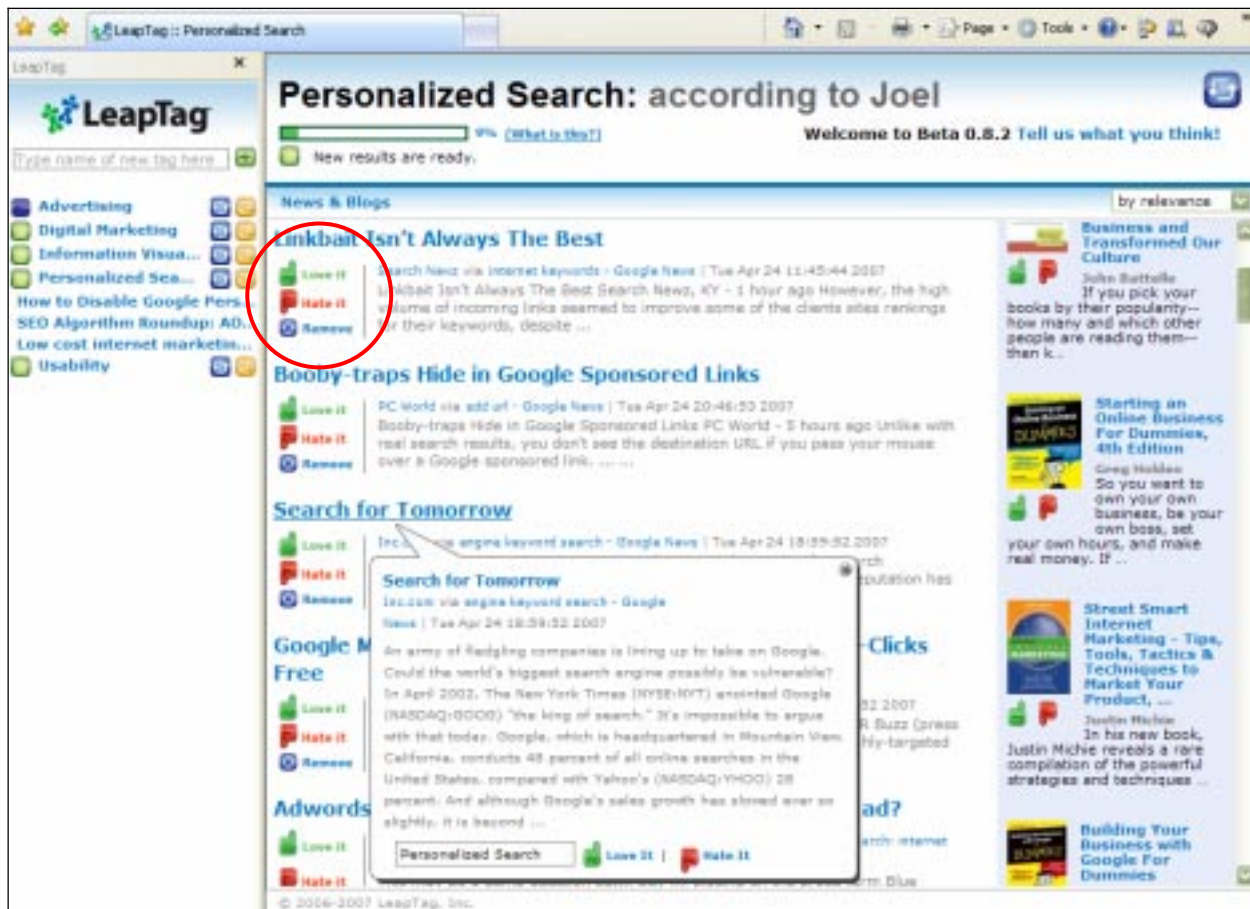


Figure 11. LeapTag™.

*LeapTag™ enables users to tag pages they find on the Web and uses these tags to enhance relevance. It also uses a personal voting mechanism (circled) that enables users to rate the relevance of search results. This approach requires more interaction on the part of the user than iGoogle and Yahoo! MyWeb which track clickstream in the background. However, searching is done automatically through the continuous search feature*

Yahoo! My Yahoo! Mail Welcome, joeltachau [Sign Out, My Account] Search Home Help

# YAHOO! SEARCH

Home - My Bookmarks - Invite Contacts - Add Page - Tools - Preferences

## MyWeb BETA

My Web (beta) Search the Web

Top tags: capstone e-commerce imported bookmarks online marketing

**My Bookmarks** My Contacts Interesting Today

**jotach**  
View public profile - Edit profile  
Messages

**Find My Favorite Tags**  
Type Tag here Find

aarf, advertising, aim,  
amon, boeing,  
cycling, dell, ia, information  
visualization, jobs, kids,  
links, microsoft web sites,  
microsoft websites,  
mobile favorites,  
personalized search, taxes,  
usability  
View More

**Tools**  
Edit My Profile  
Import Bookmarks  
Search History **ON** - Off  
Blocked Pages  
More

**Bookmarks 1 - 20 of about 209** Date Saved | Title | URL

**LeapTag: Blog**  
Shared by: Me on 5/16/2007 at 1:37 AM - Details - My saved copy  
Access: Everyone - Delete  
1 save Edit  
Tags: capstone, personalized search

**MediaPost Publications - The Numbers Game -**  
Shared by: Me on 5/1/2007 at 10:17 PM - Details - My saved copy  
Access: Everyone - Delete  
1 save Edit  
Tags: advertising, mediapost, online

**Online Market World - Conference & Expo, October**  
Shared by: Me on 5/1/2007 at 10:13 PM - Details - My saved copy  
Access: Everyone - Delete  
1 save Edit  
Tags: conferences, e-commerce, online

**Google Search History Expands, Becomes Web Histo...**  
Google's Search History feature, which was switched on as a default option for many Google searchers in February, has now been renamed ... more...  
Shared by: Me on 4/30/2007 at 7:03 PM - Details - My saved copy  
Access: Everyone - Delete  
6 saves Edit  
Tags: google, personalized search

**The Columbia Guide to Online Style 2nd Edition**  
citation, online sources  
Shared by: Me on 4/29/2007 at 11:18 PM - Details - My saved copy  
Access: Everyone - Delete  
1 save Edit

**Looks Good Works Well: Visio Wireframe Toolkit f...**  
Shared by: Me on 4/29/2007 at 10:12 PM - Details - My saved copy  
Access: Everyone - Delete  
15 saves Edit  
Tags: bill scott, interactive protoyo...

**Looks Good Works Well**  
Shared by: Me on 4/29/2007 at 10:07 PM - Details - My saved copy  
Access: Everyone - Delete  
59 saves Edit  
Tags: ux design patterns a...

**Around the SEM World: Personalized Search - Web...**  
Shared by: Me on 4/25/2007 at 12:33 AM - Details - My saved copy  
Access: Everyone - Delete  
2 saves Edit  
Tags: personalized search, search

**Did you know?**  
Discover all the hidden gems that others have found.  
Search MyWeb at the top of every page.

Figure 12. Yahoo! MyWeb (Beta).

Note that Search History has been turned on. Gathering this personal search history helps Yahoo! MyWeb make future searches more relevant. Yahoo's inclusion of tagging features is a manifestation of the company's acquisition of social computing Web site, del.icio.us.



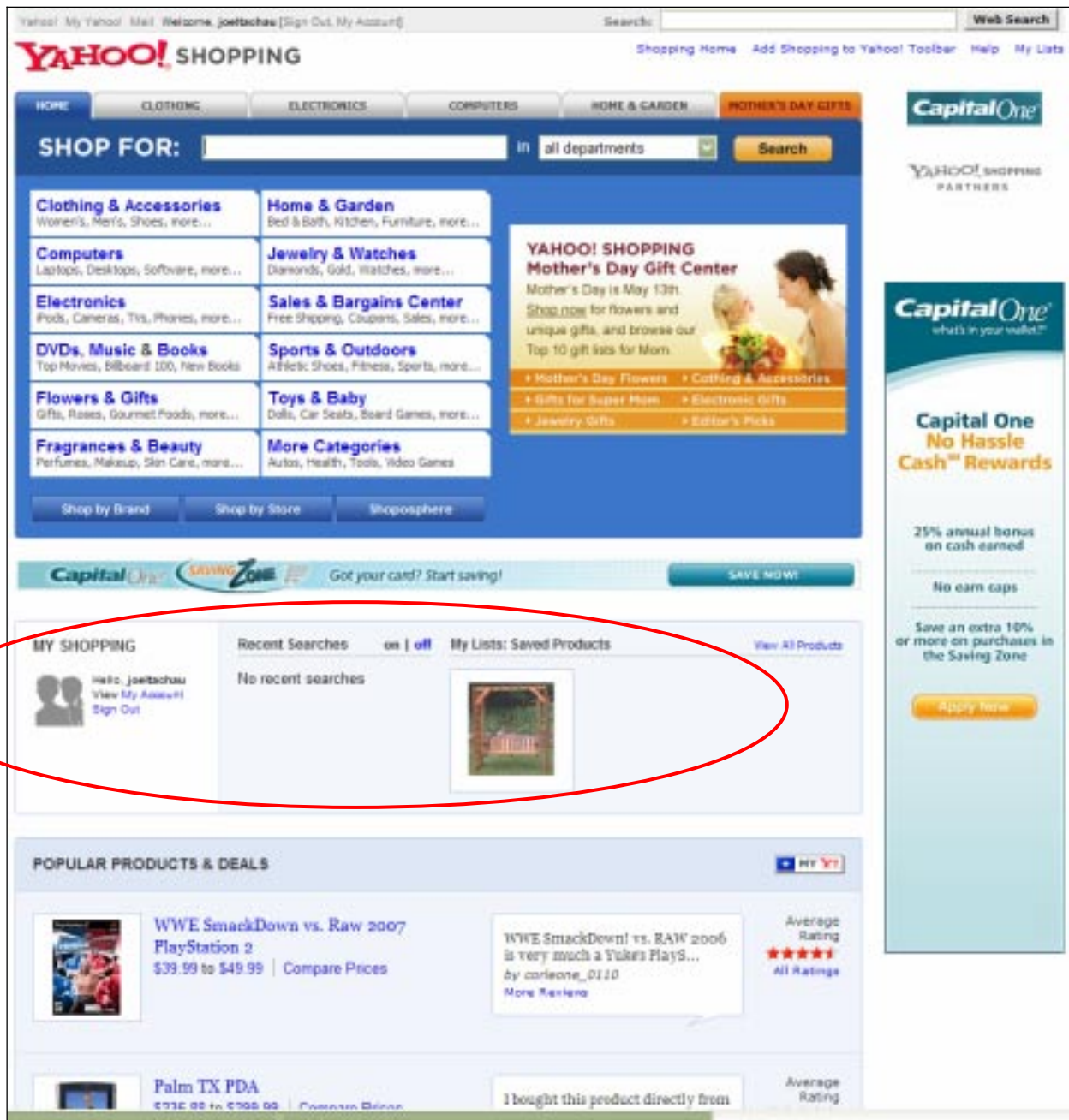


Figure 13. Yahoo! Shopping.

*Yahoo! Shopping is at the bottom of the pack in terms of usage (Hotchkiss, 2007i), but is the only major shopping site that is implementing personalized search.*



## Appendix B – Phase One Recording Results: Personalized Search Tool Features

**Table 11. Phase One data recording results: iGoogle features.**

iGoogle Feature	Note
<b>Battelle, J.</b> (2005). <i>The search: how Google and its rivals rewrote the rules of business and transformed our culture</i> . New York: The Penguin Group.	
Personalized Search	Clickstreams enable SE to tap search history
Personalized Search	Google envisions ubiquitous search, beginning with the Deskbar, a search box in the taskbar.
User Profiling	Search engines of future will build a real-time profile of your interests from past web use
<b>Davies, D.</b> (2007, April 25). Personalization and the death of SEO. <i>WebProNews</i> . Retrieved April 29, 2007 from <a href="http://www.webpronews.com/expertarticles/2007/04/25/personalization-and-the-death-of-seo">http://www.webpronews.com/expertarticles/2007/04/25/personalization-and-the-death-of-seo</a>	
Behavior on Selected Site	What you do on a site and how long it takes you to return to the search engine is or soon will be a factor.
Bookmarks	Google can look at membership in communities and bookmarking to adjust site's position in PageRank for specific phrases.
Search History	What you look for AND the sites/ads you select will affect the results you receive when you search
Social Search	Google is looking at patterns of similar searchers for future personalized search.
<b>Özveren, C.</b> (2006, April 6). A peek under the hood. In <i>LeapTag Blog</i> . Retrieved April 30, 2007, from <a href="http://leaptag.typepad.com/leaptag_by_yoriwa/2007/04/a_peek_under_th.html">http://leaptag.typepad.com/leaptag_by_yoriwa/2007/04/a_peek_under_th.html</a>	
Data Privacy	"For personalized search to work well, Google needs to capture all of a user's search activity. While doing that aggressively, Google became a tool for compromising my privacy."
<b>Özveren, C.</b> (2007, February 2). Google the spy? In <i>LeapTag Blog</i> . Retrieved April 30, 2007, from <a href="http://leaptag.typepad.com/leaptag_by_yoriwa/2007/02/google_the_spy.html">http://leaptag.typepad.com/leaptag_by_yoriwa/2007/02/google_the_spy.html</a>	
Data Privacy	"I think with Personalized Search, Google has created a tool that not only allows Google to spy on people but also allows people to spy on each other."

<b>Sterling, G.</b> (2007, May 1). iGoogle, personalized search and you. <i>Search Engine Land</i> . Retrieved May 1, 2007 from <a href="http://searchengineland.com/070501-084656.php">http://searchengineland.com/070501-084656.php</a>	
Data Privacy	<ul style="list-style-type: none"> <li>• “No commingling of Gmail and Web history</li> <li>• Web history is opt-in</li> <li>• Ability to pause Web history</li> <li>• Ability to delete selected aspects or all of Web history</li> <li>• No retention of specific user data upon deletion of Web history”</li> </ul>
Location	“Location is drawn from a default location provided by users in Google Maps.”
Personalized Home Page	“[Gadgets are] ranked algorithmically. Google also uses collaborative filtering to present Gadgets: people who liked Gadget X, liked other these other Gadgets.”
Personalized Home Page	<p>“Themes (the dynamic graphical headers at the top of iGoogle) [are] ‘a crucial element to this product’ according to Google’s Jessica Ewing. Sterling writes that themes not only make the pages more interesting for users, they can be branded by third parties to provide advertising opportunities.</p> <p>Sterling adds: “The personalized homepage segment has quickly grown crowded and even ‘generic,’ with competitors offering a similar look and feel and functionality. Google, through themes, is building an emotional relationship with the user, something that none of iGoogle’s competitors are really currently doing (even and maybe especially My Yahoo).”</p>
Personalized Home Page	“iGoogle is now available in 26 languages and in more than 40 countries.”
Personalized Search	“Even though Google, in giving users visibility and control over their Web history, is seeking to create maximum transparency and confidence in the system <i>it won’t be clear to signed-in Google users when they’re getting personalized results and when they’re not. They will simply be more personalized.</i> [Italics added]”
Recommendations RSS Feeds	“Google also offers users feeds and content recommendations when they set up iGoogle or add tabs. For example, the name a user places on a tab will automatically deliver recommended content (e.g., news, travel, finance) based on other users’ similar content pages. Content and feeds are also localized in many cases (e.g., local news).”
Search History Web History	“Currently Web/search history and location are the two factors that impact personalized search results.”
User Profiling	“[Google Personalization Technical Lead Sep] Kamvar told his audience that various technical advances in search algorithms now permitted Google to create a personalized PageRank for every user and all sorts of other personalized algorithms, not simply around link structure.”

**Table 12. Phase One data recording results: LeapTag features.**

LeapTag Feature	Note
<b>LeapTag.</b> (2006 - 2007). <i>LeapTag Blog</i> . <a href="http://leaptag.typepad.com/">http://leaptag.typepad.com/</a>	
Automatic Retrieval	LeapTag automatically updates the content in the tags, saving the user from having to proactively search the Web and sift through content that is irrelevant or unwanted.
Automatic Retrieval	"LeapTag's ability to learn what specific information you want and automatically deliver it to your desktop is innovative as well as useful."
Data Privacy	All information that is collected is stored on the user's computer, keeping the information private and in complete control of the user.
Data Privacy	Since LeapTag keeps your interests, your votes and your results strictly on your computer, your privacy is protected much better than if LeapTag were a server-based application.
Personalized Search	LeapTag pulls content from the web by considering your user-defined interests. Then, it uses your feedback (votes and tagged websites) and the content of these web pages, to extract a list of results ranked by relevance.
Tagging	LeapTag uses dynamic tagging to define the users' interests and to scour the Internet in search of matching content.
Tagging	She tags the site she's on and other web pages she finds to create a definition of the tag, giving a contextual definition to LeapTag.
Tagging	Dynamic Tagging - tag changes as user refines it
User Profiling	We have multiple personalities and different topics we are interested in within each personality.
User Profiling	Collaborative Filtering doesn't capture differences between people and multiple personalities each person has.
Voting	Users vote on the resulting content suggestions, including ads, and train LeapTag to recognize the information they consider to be the most relevant.

<b>LeapTag.</b> (2007, April 17). LeapTag's new public beta brings the most relevant & compelling content to users' desktops in complete privacy. Retrieved May 3, 2007 from <a href="http://www.leaptag.com/news.php">http://www.leaptag.com/news.php</a>	
RSS Feeds	<p>"LeapTag enables people to import their favorite news and blog feeds from popular news readers Bloglines, Google Reader and NewsGator and associate them with their interests. The ability to import existing RSS feeds means not only are individual feeds monitored, but also the results from these feeds are organized based on the user's specific interests."</p>
Tagging	<p>"Over time, LeapTag gets 'smarter' at delivering exactly the kind of information the user needs by learning from their feedback. Users can vote on results, indicating which items they like or do not like, and therefore change their tag definitions at their discretion. This further refines the content that is automatically delivered to the user's desktop."</p>
Data Privacy	<p>"All information that is collected is stored on the user's computer, keeping the information private and in complete control of the user."</p>
Voting	<p>"LeapTag is the first product that gives users the power to control the ads they see by giving them the ability to vote on their ads. This feedback refines the advertisements they will see in the future and keeps the ads relevant to the user. This relevancy will provide the advertisers with a very powerful CPA channel since users will continuously be shown ads they like instead of ads they don't care about."</p>
Social Search	<p>"While LeapTag is geared towards individualized tagging, soon users will be able to share tags with each other. Forming small groups, users can collaboratively create a collection of interesting information and continuously refine, view and communicate about what they discover together."</p>
Automatic Retrieval	<p>"LeapTag runs in the background so the user can concentrate on getting work done or doing another task while LeapTag performs its magic. LeapTag automatically updates the content in the tags, saving the user from having to proactively search the Web and sift through content that is irrelevant or unwanted."</p>

**Table 13. Phase One data recording results: Yahoo! MyWeb features.**

Yahoo! MyWeb Feature	Note
<b>Battelle, J.</b> (2005). <i>The search: how Google and its rivals rewrote the rules of business and transformed our culture</i> . New York: The Penguin Group.	
Personalized Search	Clickstreams enable search engines to tap search history
User Profiling	Search engines of future will build a real-time profile of your interests from past web use
<b>Yahoo! Inc.</b> (2007). Yahoo! Help - Search - MyWeb 2.0. Retrieved May 5, 2007 from <a href="http://help.yahoo.com/help/us/ysearch/myweb2/index.html">http://help.yahoo.com/help/us/ysearch/myweb2/index.html</a>	
Personalized Home Page	Advantages of MyWeb over bookmarks: save page links, copy pages, tag them, etc...
Search History	The Search History feature in MyWeb remembers sites you've visited using Yahoo!
Social Search	MyWeb lets you connect with friends and colleagues, allowing you to privately share what you know with each other. You'll find better answers through your community of trusted people.
Social Search	You can see what the rest of the world is saving, browse tags to discover expert resources, and find new content. Step beyond web content that's ranked by search technology alone, to content ranked by real people!
Social Search	Fusing the power of algorithmic search with the ability to tap into your community, MyRank technology enables you to find better, more relevant answers for you.
Social Search	MyWeb lets users benefit from each other's knowledge by easily sharing pages and tags with each other
Social Search	With the ability to search by tags, you not only find what you want instantly, but also discover better answers by accessing web content hand-picked and shared by a knowledgeable global community.
Social Search	Browsing sites by tags is a main feature of MyWeb. It's also a good way to discover content experts that you may want to add to your contact list.
Social Search	Contacts can be your peers, co-workers, friends, or family who share a mutual contact relationship with you; or people you have found to be a valuable resource (experts, influencers, explorers) and added to your contact list.
Tagging	MyWeb does it better by letting you "tag" sites with keywords, change the title, and add a note to what you save. Better yet, you can search all your bookmarks by tag, title, note, and page-content to instantly re-find what you saved.

Yahoo! MyWeb Feature	Note
Tagging	"Instead of organizing saved pages with folders, MyWeb lets you add descriptive keywords or labels (tags) to categorize the pages that you save. This provides an immediate structure to your saved pages so you don't have to worry about organizing them. Tags make it easy to find pages later without remembering titles or URLs and help others easily find and share what you've saved."
Tagging	"Tags" are keywords or labels that you add to the sites you save to MyWeb to help organize your saved pages.
Toolbar	The easiest way to save a page to MyWeb is to use the Yahoo! Toolbar in conjunction with MyWeb. This puts MyWeb front and center in your browser so that saving pages at the point of inspiration is convenient.

## Appendix C – Phase Two Data Recording Results: Search Expert Commentary

**Table 14. Phase Two data recording results: search expert commentary.**

<b>Daffron, E.</b> (2007, February 7). When Google changes, SEO takes it personally. <i>Search Engine Watch</i> . Retrieved May 13, 2007 from <a href="http://clickz.com/showPage.html?page=clickz_print&amp;id=3624877">http://clickz.com/showPage.html?page=clickz_print&amp;id=3624877</a>
"The majority of [SEO professionals'] concerns are due to their no longer having universal control over the Google results page."
"If you focus on content and have even a vague semblance of a comprehensive marketing plan, personalization will likely show you modest benefits in the long run."
"Corny as it might sound, designing sites for users has never been more important for search marketers than it is today, if for no other reason than the single algorithm you're chasing now will soon be 500 million little ones."
"The issue will have very little effect on most businesses. For most businesses, personalized search will mean surprisingly little."
<b>Davies, D.</b> (2007, April 25). Personalization and the death of SEO. <i>WebProNews</i> . Retrieved April 29, 2007 from <a href="http://www.webpronews.com/expertarticles/2007/04/25/personalization-and-the-death-of-seo">http://www.webpronews.com/expertarticles/2007/04/25/personalization-and-the-death-of-seo</a>
Develop new strategies to tie sites together and ensure sites are included in communities and that the user experience is great.
Link building from regionally specific resources
Get listed on Google Maps, optimize for local phrases
Consider adding Google Analytics code or wait
"If your site has stickiness and searchers spend a reasonable amount of time there when it shows up in the results, the rankings will increase for that phrase."
Optimize for multiple related phrases - best practice
Not many people are getting personalized results today, but that will change.
Search experts are confused by situation where site adversely impacted generally but within personalization realm sees positive impact.
Develop new measures for SEO campaigns
Bottom line: increase visitors who are interested in topic of your site
Associate site with specific communities. Build links to these social bookmarking sites and authority communities.
"Think like a high PageRank user to give you ideas on how to structure site and keyword targeting."
SEO as we know it will be coming to a slow but sure death.

<b>Fishkin, R. &amp; Pollard, J.</b> (2007, April 3). Google search engine ranking factors. <i>SEOMoz</i> . Retrieved May 24, 2007 from <a href="http://www.seomoz.org/article/search-ranking-factors">http://www.seomoz.org/article/search-ranking-factors</a>
"Historical Performance of Site as Measured by Time Spent on Page, Clickthroughs from SERPs, Direct Visits, Bookmarks, etc..." receives a 2.8 out of 5 average rating from search experts. This will become more important, but is speculation right now since Google doesn't acknowledge that it is tracking this metric.
"Link Popularity of Site in Topical Community" receives a 3.9 out of 5 average rating from search experts.
"Rate of New Inbound Links to Site" (The knock-on effect) gets 3.5 out of 5 average rating. Links from sites like Digg are an example.
<b>Hotchkiss, G.</b> (2007a, January 8). The future of SEO in a personalized search interface. <i>Out of My Gord</i> . Retrieved May 14, 2007 from <a href="http://www.outofmygord.com/archive/2007/01/08/The-Future-of-SEO-in-a-Personalized-Search-Interface.aspx">http://www.outofmygord.com/archive/2007/01/08/The-Future-of-SEO-in-a-Personalized-Search-Interface.aspx</a>
"Organic results, of some kind, will always be part of the results set presented."
"There will always be a hierarchy in the results, but it will be different for each person. The control of measuring progress by positions achieved will come to a crashing halt and with it, the SEO industry as we know it."
<b>Hotchkiss, G.</b> (2007b, January 10). The SEO debate continues. <i>Out of My Gord</i> . Retrieved May 14, 2007 from <a href="http://www.outofmygord.com/archive/2007/01/10/The-SEO-Debate-Continues.aspx">http://www.outofmygord.com/archive/2007/01/10/The-SEO-Debate-Continues.aspx</a>
"SEO is going to get a lot harder, not easier. And that increasing difficulty is going to be in area that today's crop of SEO's have next to no experience in: knowing the end user."
"It's about knowing your user intimately and where they tend to hang out, given a specific intent."
"Personalized search may be what finally kills black hat SEO."
More balanced approach, more marketing focused, less technical specialist
"Become a trusted guide to online traffic patterns."
"It's about working with the client to help them understand how consumers use online to research and to help them turn their organization into an organic content factory."
"In a lot of cases, it will be about doing the fundamentals right."
<b>Hotchkiss, G.</b> (2007c, February 3). The personalized results are coming, the personalized results are coming! <i>Out of My Gord</i> . Retrieved May 1, 2007 from <a href="http://outofmygord.com/">http://outofmygord.com/</a>
"You target an end user. You wrap your site messaging in terms that resonate with that user. You write in their language, you give them a reason to seek you out, and you sure as hell don't disappoint them when they click through to your site."
"As you search more, your results will draw more and more away from the universal default and closer and closer to your unique intent."
"Become an expert in how consumers navigate online and help your customers with the big picture, including the new reality of SEO."
"The new SEMPO surveys say SEO continues to be the number one tactic in search marketing."



<p>“Work with the marketing team to crawl inside the head of your target audience and figure out the who, the when and the why. Don't worry so much about the where, because you can't really control that any more.”</p>
<p>Get to the front lines, to the people who are churning out the content, and teach them about what search engines are looking for. Make sure SEO best practices are baked right into the overall process flow.</p>
<p>“The days of the universal results page are numbered. Which means that the days of the reverse engineering approach to SEO are equally numbered.”</p>
<p>“SEO is, and will continue to be, vitally important as long as organic search results continue to be important to the user</p>
<p>“Remove all the technical barriers between your content and the indexes you need to be in.”</p>
<p><b>Hotchkiss, G.</b> (2007d, March 2). Goggle's Matt Cutts on personalization and the future of SEO. <i>Search Engine Land</i>. Retrieved April 20, 2007 from <a href="http://searchengineland.com/070302-111618.php">http://searchengineland.com/070302-111618.php</a></p>
<p>“The difficulty in making those decisions about just how much functionality to expose, in terms of toggles and advanced user preferences and stuff like that. So what we try to do is tackle the most common case and make that very simple.”</p>
<p>“In a market as hotly contested as search is, I still believe that the amount of personalization that appears on the search results page will continue to grow, likely faster than Google is anticipating right now.”</p>
<p>Push search marketers to look at people, not tactics and gain necessary skills to do so.</p>
<p>“There is an opportunity to move beyond the black box tactics that has typified our industry for the last decade and truly become experts in understanding how people search for and connect online with products and services that they're interested in.”</p>
<p>Demo personalized search for client. Encourage them to look at "entire horizon of the space" instead of one trophy phrase.</p>
<p>It's marketing based much more on understanding and intuition than it is on absolute, word by word control.</p>
<p>“Right now the basis of most search marketing campaigns is a list of key phrases. We don't really pay any attention to the people who may be using those phrases, because we can focus on the phrase itself.”</p>
<p>“People can think hard about whether they're optimizing for users or whether they're optimizing primarily for search engines.”</p>
<p>“Numerous people demonstrated that if you chase after the long tail and make a good site that can match many, many different users' queries you might end up with more traffic than if you had that trophy phrase.”</p>
<p>“As a factor that SEOs have to consider right now, [personalized search] actually has less impact than a major index update might.”</p>
<p>“The idea of a monolithic set of search results for a generic term will probably start to fade away, and you already see people expect that if I do a search and somebody else does the search, they can get slightly different answers.”</p>
<p>“So, when we talk about how Google determines what results people see, there's personalization that we have control over and personalization that we don't have control over, such as localization.”</p>

"Personalization is the topic that seems to be drawing all the attention right now, but the fact is localization may be a bigger immediate concern for the optimization industry."

"Expect the degree of personalization to increase as Google gets more confident in their ability to present truly personalized and relevant results. And that signals the end of the implications for search engine optimization."

"With personalization and the changes in how SEO will work, that will just push people further along that spectrum, towards looking at 'it's not just a number one result for one query, it's 'How do we make it across a lot of queries?. What value do I deliver? Am I looking at my server logs to find queries that I should be targeting?' And not just search engines, how do I target different parts of the search engine? Like the Local part of Google, the Maps part of Google. How do I target Google notebook and the other properties and how do I show up well across the entire portfolio of search properties?' And that's a healthy transition period that will push people towards delivering better value for their users and that's better for everybody."

**Hotchkiss, G.** (2007e, March 9). The pros & cons of personalized search. *Search Engine Land*. Retrieved April 20, 2007 from <http://searchengineland.com/070309-081324.php>

"When it can help me explore territory that I'm unfamiliar with more confidently and helps connect me to the sites I'm looking for, personalization becomes a huge user win."

"Personalization is currently a navigational aid."

"This lack of control appears to be the biggest push back point against personalization. Many of us are just not at a point where we can trust technology to be able to interpret us as individuals."

"Right now, only one in five searches will be impacted by personalization and it will only lift two results into the top 10. In this way, it's really not a major impact for most of us on the majority of our searches."

"What if our past online paths aren't a good predictor of where we might go in the future?"

"Users don't even know they're logged on, despite Google's claims that it's easy to see."

"But for personalization to deliver the win that Google is banking on, it's going to have to play a much bigger role on the search results page."

**Hotchkiss, G.** (2007f, April 19). Google adds your click path to search personalization. *Out of My Gord*. Retrieved May 1, 2007 from <http://www.outofmygord.com/archive/2007/04/19/Google-Adds-Your-Click-Path-to-Search-Personalization.aspx>

"Marissa Meyer indicated that right now they're (Google) going to be sticking to their threshold of two personal results per page, never knocking out the number one organic results, but she made it clear that that's a "for now" call and will likely change in the future."

"The interesting question will be to see what kind of user pushback comes from the privacy concerns. Will the trade-off of increased search accuracy be enough to have lots of users opt in?"

"The promise of personalization is moving Google to be a true recommendation engine when it gets confident in disambiguating my intent based on my current behavior."

"[Web History] gives Google the ability to precisely target search results based on exactly what's happening to me right now."

"With Web history, Google can track your progress through the buying cycle to be able to match the information site you're looking for to where it believes you are, based on your current click stream data."

"This allows Google to move far beyond the well tread search path and actually taps into your current browsing behavior to try to determine what's on your mind right now."

**Özveren, C.** (2006, April 6). A peek under the hood. In *LeapTag Blog*. Retrieved April 30, 2007, from [http://leaptag.typepad.com/leaptag\\_by\\_yoriwa/2007/04/a\\_peek\\_under\\_th.html](http://leaptag.typepad.com/leaptag_by_yoriwa/2007/04/a_peek_under_th.html)

"We believe that personalization is headed on a collision course with privacy and security."

**Sterling, G.** (2007, May 1). iGoogle, personalized search and you. *Search Engine Land*. Retrieved May 1, 2007 from <http://searchengineland.com/070501-084656.php>

"[Jessica] Ewing made the editorial comment that 'feeds are boring' but 'gadgets are fun' and the introduction of Google Gadgets has contributed to the rapid growth of iGoogle. (Yahoo has widgets.) She explained that when Gadgets were first introduced they were organized by her group but now they're ranked algorithmically. Google also uses collaborative filtering to present Gadgets: people who liked Gadget X, liked other these other Gadgets."

"[Sep] Kamvar told his audience that various technical advances in search algorithms now permitted Google to create a personalized PageRank for every user and all sorts of other personalized algorithms, not simply around link structure."

"[Google's Melissa] Mayer did suggest that personalized results would eventually extend to sponsored links. 'We want search and ads to mirror one another,' she said."

**Sullivan, D.** (2007a, February 2). Google ramps up personalized search. *Search Engine Land*. Retrieved April 30, 2007, from <http://searchengineland.com/070202-224617.php>

"Titles & Descriptions are crucial: You need the clickthrough more than ever. Clickthroughs get your site as seen as possibly important to a particular person's profile."

"Put Google Bookmark buttons on your site, such as the one offered by AddThis. Getting bookmarked also helps you be seen as important."

"Get on the Google personalized homepages of searchers. That means offering them a feed or a gadget and encouraging take-up with an Add To Google buttons."

**Wilson, N.** (2007, February 8). 3 ranking survival tips for Google's new personalized results. *Search Engine Land*. Retrieved April 23, 2007 from <http://searchengineland.com/070208-134406.php>

Google's rollout of personalized search largely goes unnoticed for the "masses" but is a "game changer" for search marketers.

"One size fits all is a thing of the past." Personalized search is not the default but still heralds significant change in way search engine works. Use Google services to improve search results...

"For search marketers, it means new skills and techniques are needed to achieve search visibility."

1. Optimize For Google Services: "Given the new importance of these services, making your pages easy to add to them makes sense -- if you can bear having to promote Google services on every page in your site just to get a leg up the search results!"

2. Optimize for social search. "Knock-on" effect of social search sites like Digg, del.icio.us and StumbleUpon. Traffic from these sites can help improve ranking on Google.

3. Optimize for Social Networks: "Social networking means finding the movers and shakers, those who can swing traffic your way on the blogosphere. It can also mean finding them through formal social networking sites like MySpace." Can be daunting task...

## Appendix D – Definition of Terms

Term	Definition
<b>Advertisers</b>	Synonymous with online marketers.
<b>Attention economy</b>	“If the Web and the Net can be viewed as spaces in which we will increasingly live our lives, the economic laws we will live under have to be natural to this new space. These laws turn out to be quite different from what the old economics teaches, or what rubrics such as ‘the information age’ suggest. <i>What counts most is what is most scarce now, namely attention. The attention economy brings with it its own kind of wealth, its own class divisions - stars vs. fans - and its own forms of property, all of which make it incompatible with the industrial-money-market based economy it bids fair to replace. Success will come to those who best accommodate to this new reality</i> ” (Goldhaber, 1997, p. 1).
<b>Automation</b>	“Automation moves beyond aiding our muscles, well above them, to replacing and reinforcing certain mechanistic actions of our brain. It does so with computer programs that control the appliances that serve us, but also with programs that manipulate information automatically and according to our wishes, where no physical entity budges...” (Dertouzos, 2001, p.49).
<b>Automatic Retrieval</b>	This feature which automatically retrieves search results based on dynamic tagging is a distinguishing feature of LeapTag. The term is synonymous with Continuous Search and related to Information Retrieval.
<b>Behavioral Targeting</b>	“Ads are triggered by a series of sites visited or some similar behavior. Advanced user targeting is available in networks that aggregate user behavior across multiple Web sites.” (Williams, 2006e, p. 6).
<b>Black Hat SEO</b>	SEO techniques that target search engines using the PageRank algorithm primarily. These techniques include hiding text by stuffing text into JavaScript or using white on white text – all done to increase the percentage of keywords and thereby the ranking of the page. Cloaking is another Black Hat technique (see below). Link building and buying are also Black Hat techniques. (Chris Boggs, personal communication, May 25, 2007).
<b>Brand Marketing</b>	“Brand is many things but at its core it is an emotional connection between a user and a product or service. That connection has its greatest impact at the experience level where an interaction between the user and the product or service takes place” (Mendez, 2007b).
<b>Click Fraud</b>	“The American Association of Advertising Agencies define click fraud as ‘a person, automated script or computer program clicking on a paid search ad, adversely affecting the advertiser who received the click, often to the benefit of the publisher’” (AAAA, 2006).
<b>Click Path</b>	“Click paths tend to indicate the life events that you're currently in the middle of it” (Hotchkiss, 2007g).

Term	Definition
<b>Clickstream</b>	<p>“Through the actions we take in the digital world, we leave traces of our intent, and the more those traces become trails, the more strongly an engine might infer our intent given any particular query... A clickstream might best be understood as a story by another name” (Battelle, p. 255). Battelle associates clickstream today with search history thinks search engines will add the web history part (2005, p. 257).</p> <p>Clickstreams were envisioned in 1945 by Vannevar Bush in him seminal essay, “As we may think”. He described a “mechanized private library” called a “memex” which would enable users to store “associative trails” (Bush, 1945). Synonymous with Click Path.</p>
<b>Cloaking</b>	<p>“In terms of search engine marketing, this is the act of getting a search engine to record content for a URL that is different than what a searcher will ultimately see. It can be done in many technical ways. Several search engines have explicit rules against unapproved cloaking. Those violating these guidelines might find their pages penalized or banned from a search engine's index” (SEMPO, 2007).</p>
<b>Collaborative Filtering</b>	<p>“A technology that aims to learn user preferences and make recommendations based on user and community data. It is a complementary technology to content-based filtering (e.g. keyword-based searching). Probably the most well known use of collaborative filtering has been by Amazon.com where a user's past shopping history is used to make recommendations for new products” (Das, Datar, Garg &amp; Rajaram, 2007, p. 1).</p>
<b>Content-based Filtering</b>	<p>“The system tracks each user's behavior and recommends items that are similar to items the user liked in the past” (Stewart, 2003a, p. 4).</p>
<b>Contextual Computing</b>	<p>“The enhancement of a user's interactions by understanding the user, the context, and the applications and information being used, typically across a wide set of user goals. With respect to personalized search, the contextual computing approach focuses on understanding the information consumption patterns of each user, the various information foraging strategies and application they employ, and the nature of the information itself” (Pitkow et al, 2002, p. 50).</p>
<b>Contextualization</b>	<p>“The interrelated conditions that occur within an activity. Contextualization includes factors like the nature of information available, the information currently being examined, the applications in use, when, and so on” (Pitkow et al, 2002, p. 51).</p>
<b>Continuous Search</b>	<p>Search tools that employ continuous search use user profiles or in the case of LeapTag, “dynamic tagging,” to automatically discover relevant content on the Web (LeapTag, 2007).</p>

Term	Definition
<b>Conversion</b>	<p>“Conversion refers to site traffic that follows through on the goal of the site (such as buying a product on-line, filling out a contact form, registering for a newsletter, etc.). Webmasters measure conversion to judge the effectiveness (and ROI) of PPC and other advertising campaigns. Effective conversion tracking requires the use of some scripting/cookies to track visitors’ actions within a website. Log file analysis is not sufficient for this purpose” (Measuring Up, 2005).</p> <p>Micro-conversions are small steps toward a full conversion which is “persuading your users to do what you want them to do” (Jackson, 2007).</p>
<b>Conversion Process</b>	The process of completing a transaction through multiple online media placements (Avenue A   Razorfish, 2007, p. 74-75).
<b>Disambiguating Intent</b>	<p>“Sometimes search terms are ambiguous (e.g. Jaguar). To find relevant search results, search engines must often ‘disambiguate intent.’ This process currently depends on the user who must refine search terms until intent is clear. In the future, search engines will take on part of this responsibility. Personalization will be the key to helping search engines disambiguate intent” (Hotchkiss, 2007). Hotchkiss considers disambiguating intent the “holy grail for any search engine” (2007, April 20).</p>
<b>Document</b>	Search experts refer to web pages as documents. They find documents that are topical and have a good PageRank™ and then try to build links from them to their documents (Chris Boggs, personal communication, May 25, 2007).
<b>E-commerce</b>	“A company or site offers to transact or facilitate the selling of products and services online” (Kotler & Keller, 2006, p. G3)
<b>E-marketing</b>	“Company efforts to inform buyers, communicate, promote, and sell its products and services over the Internet” (Kotler & Keller, 2006, p. G3)
<b>Gadget</b>	<p>“The Google Gadgets API is a simple way to create little applications that run on multiple sites, including iGoogle, Google Desktop, Google Page Creator, and thousands of sites all over the web that use Google Gadgets for Your Webpage. Google Gadgets reach tens of millions of users every week; even better, Google provides free hosting, free bandwidth and an easy way to submit your gadgets to the official directory, where users from all around the world come to find them” (Google, 2007a).</p>
<b>Hybrid Consumers</b>	Traditional consumers do not shop online. Cyber-consumers do most of their shopping online. Hybrid consumers do both online and offline shopping. “Most consumers are hybrid” (Kotler & Keller, 2006, p. 192).
<b>Inference</b>	Yahoo’s search engine “infers” the searcher’s intent upon entering search terms. They call this feature “shortcuts” (Battelle, 2005, p. 259). Battelle ponders whether this approach “can scale to less obvious topics” (Battelle, 2005, p. 259).
<b>iGoogle</b>	“Google Inc. has expanded beyond a one-size-fits-all view of Web search to tie together its efforts to offer personalized Web searches under the iGoogle brand” (Reuters, 2007).
<b>Individualization</b>	“The totality of characteristics that distinguishes an individual. Individualization encompasses elements like the user’s goals, prior and tacit knowledge, past information-seeking behaviors, among others” (Pitkow et al, 2002, p. 51).

Term	Definition
<b>Information Overload</b>	“As the world enters the Knowledge Age, information on virtually every aspect of our lives and businesses is becoming available at an increasing rate. When the availability of information outstrips the time and energy of those who could potentially use it, frustration can result. This condition is often referred to as information overload or infoglut. Left unresolved, this can lead to inefficiency at best, job burnout at worst” (Netscape, 2000).
<b>Information Search</b>	The second stage of the buying decision process is information search where consumers are either more receptive to marketing or may actively seek out information about a product (Kotler & Keller, 2006, p. 191-192).
<b>Iterative Searching</b>	The process most users go through when using a search engine involves entering keywords into the search input field, hitting “search,” viewing the results and then repeating the process until the search results match the user’s intent (Hotchkiss, 2007g).
<b>Latency</b>	“Latency refers to the average time between customer activity events, for example, making a purchase, calling the help desk, or visiting a web site” (Novo, 2004). Since most consumers do not convert on the first visit to a site, personalization can help with “latent conversions” (Sterling, 2006).
<b>LeapTag</b>	“LeapTag is the powerful combination of a news reader and web content discovery tool that users download to their desktops. After creating tags to represent the things they are personally interested in and passionate about, users can vote on the results they like best and least - including ads. LeapTag uses this feedback to continuously improve the user’s results and to provide personalized content. Since it sits on the desktop, LeapTag brings that content to users in complete privacy” (LeapTag, 2007).
<b>Link Baiting</b>	Link baiting is “viral marketing for exposure and links. Creating an idea (in this case an article) that can be used to expose [a] website to a large group of people to pick up a some extra links, subscribers, customers, and the branding as a bonus prize” (Malicoat, 2006).
<b>Local Search</b>	A category of personalized search leveraging mapping technologies and search engines. Local search is the first phase of personalized search that is in place today (Battelle, 2005, p. 258) and has the most “near term potential” (Avenue A   Razorfish, 2007, p. 47)
<b>Marketer</b>	“Someone who seeks a response (attention, a purchase, a vote, a donation) from another party, called the prospect” (Kotler & Keller, 2006, p. G5)
<b>Online Consumer</b>	Online consumers are either “cyber-consumers,” people who do most of their shopping online, or “hybrid consumers,” people who shop both offline and online. (Kotler & Keller, 2006, p. 192).
<b>Online Marketer</b>	A business that is marketing its products or services online via a “wide range number of digital experiences: RSS, widgets, blogs, web video, mobile, search, e-mail, Video On-Demand, podcasting, etc...” (Avenue A   Razorfish, 2007).
<b>Online Marketing</b>	Businesses and organizations promoting and selling their products and services on the Web

Term	Definition
<b>Organic Optimization</b>	<p>“Organic optimization focuses on developing web sites that are naturally search engine friendly and appear in the unpaid or ‘organic’ search engine results pages. (SERPS) Successful organic optimization combines technical know-how with persuasive marketing. Organically optimized web sites contain content that visitors find informative and relevant to their searches. Content is further optimized for search engines by incorporating relevant key phrases or words into the site's literature. Organic optimization is holistic in approach. Every aspect of a web site is analyzed for its level of search friendliness. Aspects like the site's title, meta-tags, editorial copy, structure and design, usability and function are all taken into consideration. These aspects and many others are equally considered when optimizing a web site” (Palmer, 2005).</p> <p>Synonym: Organic Search</p>
<b>PageRank™</b>	<p>PageRank is Google's algorithm that orders or ranks search engine results.</p> <p>“A system for ranking web pages developed by [Google] founders Larry Page and Sergey Brin at Stanford University. PageRank relies on the uniquely democratic nature of the web by using its vast link structure as an indicator of an individual page's value. In essence, Google interprets a link from page A to page B as a vote, by page A, for page B. But, Google looks at considerably more than the sheer volume of votes, or links a page receives; for example, it also analyzes the page that casts the vote. Votes cast by pages that are themselves "important" weigh more heavily and help to make other pages "important." Using these and other factors, Google provides its views on pages' relative importance... So, Google combines PageRank with sophisticated text-matching techniques to find pages that are both important and relevant to your search. Google goes far beyond the number of times a term appears on a page and examines dozens of aspects of the page's content (and the content of the pages linking to it) to determine if it's a good match for your query.” (Google, 2007).</p> <p>Related term: TrustRank.</p>
<b>Personalization</b>	<p>“A strange hybrid of push and pull that dwells in the borderlands between marketing and technology. The promise of personalization is simple: by modeling the behavior, needs and preferences of an individual, we can serve up customized, targeted content and services. The benefits to the user are clear. No more searching. Information comes to you” (Morville, 2005, p. 115).</p>
<b>Personalized Search</b>	<p>“Personalized search is the fine-tuning of search results and advertising based on an individual's preferences, demographic information and other factors. Presumably, the better a search engine understands a user's interests and preferences, the better able it is to target search results, advertising, sponsored links, etc...” (Johnson, 2005).</p>
<b>Personalized Search Tool</b>	<p>Personalized search tools are based on the concept that “the more a [search] engine knows about you, the more it can weed out irrelevant results” (Battelle, p. 258). The first phase of personalized search tools is local search (Battelle, 258). Eventually personalized search tools will make “subtle and sophisticated calculations based on your own clickstream and those of millions of others” (Battelle, 2005, p. 262).</p>



Term	Definition
<b>Privacy</b>	"Privacy is the power to control what others can come to know about you. People gain knowledge about only through Monitoring and Searching." (Stewart, 2003b, p. 2).
<b>Push Search</b>	One of the three forms of search according to Google's Sep Kamvar, Push Search is recommended and iGoogle, the personalized homepage (Colehour, 2007).
<b>Recommendation Engine, Recommender System</b>	A feature of a search engine that displays recommended results akin to Amazon's suggestions (Slawski, 2007a). This feature is an example of "push search."
<b>Recommendations</b>	An approach to personalization that supplements search results with results that the search engine thinks "match the interest behind the query" (Slawski, 2007a). See "Recommendation Engine" above.
<b>Relevance</b>	"Relevant results are those which are interesting and useful to users" (Morville, 2005, p. 49).
<b>RSS Feed</b>	"The new method for easily distributing online content is often called a web feed and the technical format that makes it possible is called RSS, which stands for Really Simple Syndication, Rich Site Summary... Subscribing to feeds makes it possible to review a large amount of online content in a very short time." (FeedBurner, n.d.).
<b>Search Engine</b>	"Search engines crawl the Internet using automated programs (often referred to as spiders) to retrieve content in the form of web pages. They then add these pages, if found to be unique, into their indices, which makes up the set of possible results to a search" (Avenue A   Razorfish, 2006b).
<b>Search Engine Marketing (SEM)</b>	"SEM or Search Engine Marketing is the management and optimization of paid search placements. Paid on a cost-per-click basis, paid search is a low risk, high reward placement reaching users who are actively seeking information through search engines such as Google, Yahoo! and MSN. These listings are generally found above and to the right of the natural search listings within the search engine results" (Avenue A   Razorfish, 2005b, p. 1).
<b>Search Engine Optimization (SEO)</b>	"SEO is the process of improving natural or organic rankings on search engines. Search engines rank websites based on variety of parameters and each search engine has its own algorithm to rank different websites. However, one common and most important ranking parameter is a site's credibility which is determined by the quality and quantity of other sites which link to it" (Chopra, 2007, p. 1).
<b>Search Engine Result Page (SERP)</b>	Search engines display search results on these pages and rank them according to relevance. The ranking of results on these pages is the focus of SEO techniques.
<b>Search Expert</b>	"A search engine marketing executive for a Fortune 1000 company; also a digital brand or direct-response marketer with a designated responsibility for search marketing" (Avenue A   Razorfish, 2006c, pp. 4-5).
<b>Search History</b>	Most search engines now support search history, keeping track of users' searches and using this information to refine future searches (Battelle, 2005, p. 258).

Term	Definition
<b>Social Media Optimization (SMO)</b>	"The concept behind SMO is simple: implement changes to optimize a site so that it is more easily linked to, more highly visible in social media searches on custom search engines (such as Technorati), and more frequently included in relevant posts on blogs, podcasts and vlogs" (Bhargava, 2006).
<b>Social Search</b>	"A way of making Web search more relevant by incorporating the preferences of like-minded Net surfers" (Kharif, 2006)
<b>Traditional Search</b>	The "pull" version of search that consumers are most familiar with (Colehour, 2007).
<b>TrustRank</b>	"An algorithm for determining the likelihood that pages are reputable" and a technique "to semi-automatically separate reputable, good pages from spam" (Gyongyi, Garcia-Molina, & Pedersen, 2004)
<b>User-Centered Design</b>	"User-centered design (UCD) is an approach to design that grounds the process in information about the people who will use the product. UCD processes focus on users through the planning, design and development of a product" (Usability Professionals' Association, n.d.).
<b>User Profile</b>	"A user profile contains demographic information (such as name, age, country, marital status, education, interests etc.) for each user of a Web site, as well as information about users' interests and preferences. Such information is acquired through registration forms or questionnaires, or can be inferred by analyzing Web usage logs" (Eirinaki & Vazirgiannis, 2003, p. 3).
<b>User Profiling</b>	"In the Web domain, user profiling is the process of gathering information specific to each visitor, either explicitly or implicitly. A user profile includes demographic information about the user, her interests and even her behavior when browsing a Web site" (Eirinaki & Vazirgiannis, 2003, p.3).
<b>Vertical Search</b>	"Unlike Google, 'vertical search' companies don't rely on fancy algorithms or indexing technology. Instead, they specialize in a topic or industry and use rudimentary search means, such as collecting links to relevant sites or charging companies a per-click fee for a listing" (Chafkin, 2007).
<b>Web History</b>	Synonymous with Clickstream or Click Path.
<b>Web Spamming</b>	"In an era of search-based web access, many attempt to mischievously influence the page rankings produced by search engines. This phenomenon, called web spamming, represents a major problem to search engines and has negative economic and social impact on the whole web community" (Gyongyi, Garcia-Molina, & Pedersen, 2006).
<b>White Hat SEO</b>	SEO techniques that target "social media optimization, link bait, things that are interesting to people and attract word of mouth and buzz, those sorts of sites naturally attract visitors, attract repeat visitors, attract back links, attract lots of discussion" (Hotchkiss, 2007d). "Optimizing for users" vs. "optimizing for search engines" which is Black Hat SEO (Hotchkiss, 2007d).
<b>Yahoo! Shopping Search</b>	"Yahoo! Shopping Search helps you find the right product at the right price by giving them the most relevant product listings for a keyword query. Our search enables you to find millions of items from thousands of merchants, so you can locate, compare, and buy just about anything" (Yahoo! Inc., 2007).

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